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VOL. 65 NO. 3

textile bulletin

MARCH • 1959

What's All
This About
Preblending?
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BPA NBP

TOPS IN QUALITY

West Point's PACESETTER Slasher

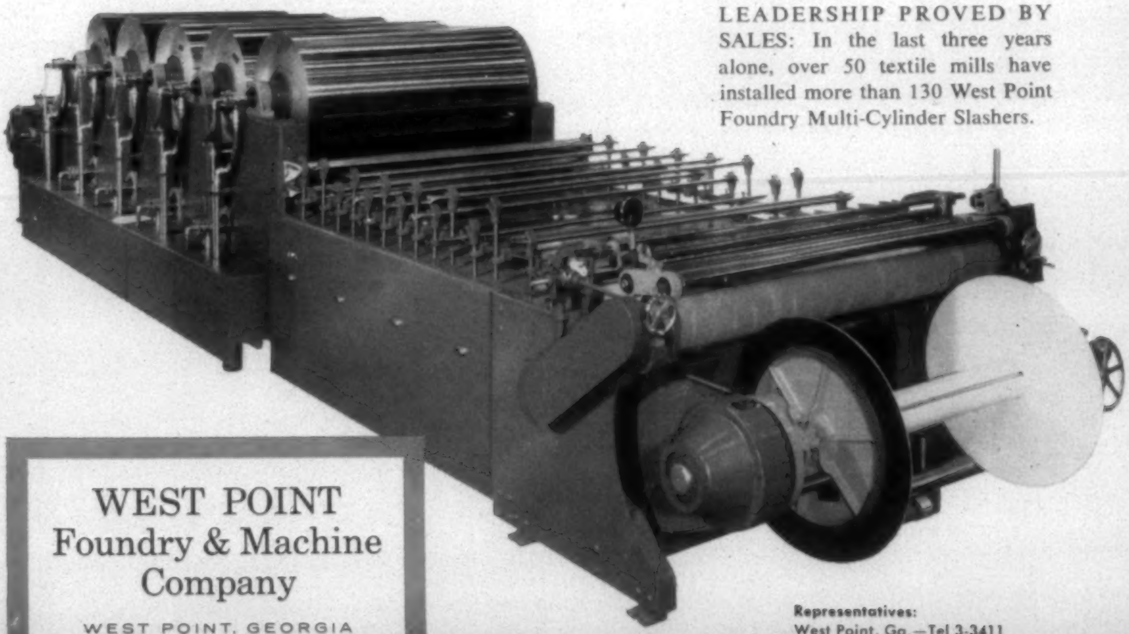
This **LATEST MODEL** of West Point Foundry's high capacity multi-cylinder slasher has the largest journals and bearings, the largest sprockets, the heaviest frame.

The **PACESETTER CYLINDER SECTION** features side panels that simply lift out to give easy access to cylinders and sprockets. No bolts, screws or nuts to remove, to tighten or to lose. *Covered steam and condensate manifolds.*

The **PROVED AND RUGGED HEAD END** with traversing headstock is already in operation in a dozen mills on the widest sheeting and the lightest leno.

- Can accommodate beams varying *over 100 inches* in width without projecting arbors . . . NOT LIMITED TO 50 INCHES.
- No gear reducer, no gear motor, no torque tube, no universal joints! What could be simpler and less troublesome than chain and V-belt drive with replacement parts available from any supply house?

LEADERSHIP PROVED BY SALES: In the last three years alone, over 50 textile mills have installed more than 130 West Point Foundry Multi-Cylinder Slashers.

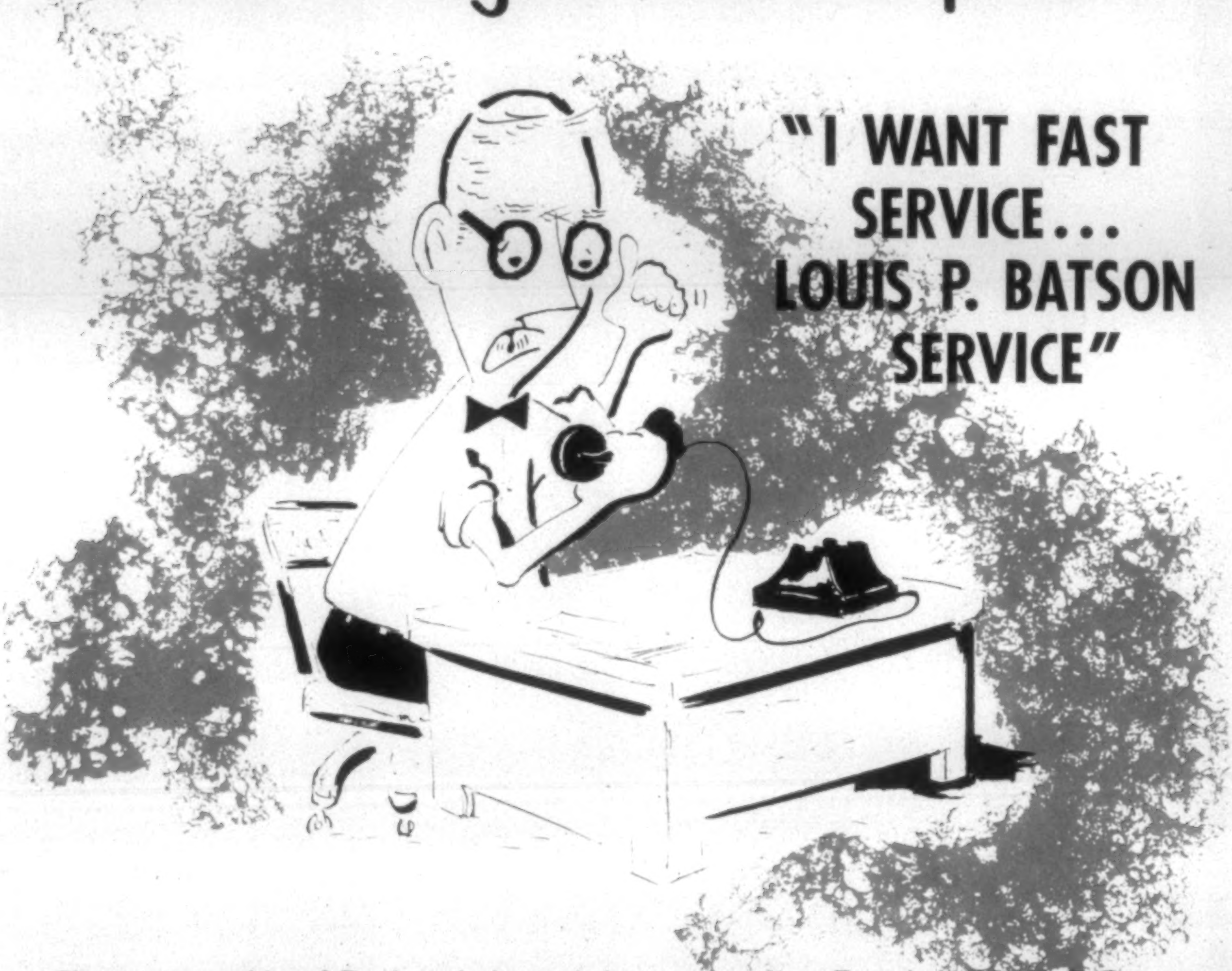


WEST POINT
Foundry & Machine
Company

WEST POINT, GEORGIA

Representatives:
West Point, Ga.—Tel 3-3411
Concord, N. C.

Holler it right into the phone


"I WANT FAST SERVICE... LOUIS P. BATSON SERVICE"

Changeover problems? Don't push the panic button . . . call us. Experienced Louis P. Batson representatives are near by ready to assist, recommend and rush to you the parts you need . . . all you have to do is . . . holler " . . . I want Louis P. Batson service!" Holler it right into the phone after previously dialing GREENVILLE CEdar 2-7691.

LOUIS P. BATSON Company

P. O. Box 772
GREENVILLE, S. C.

These are always "on the shelf" ready for immediate delivery:

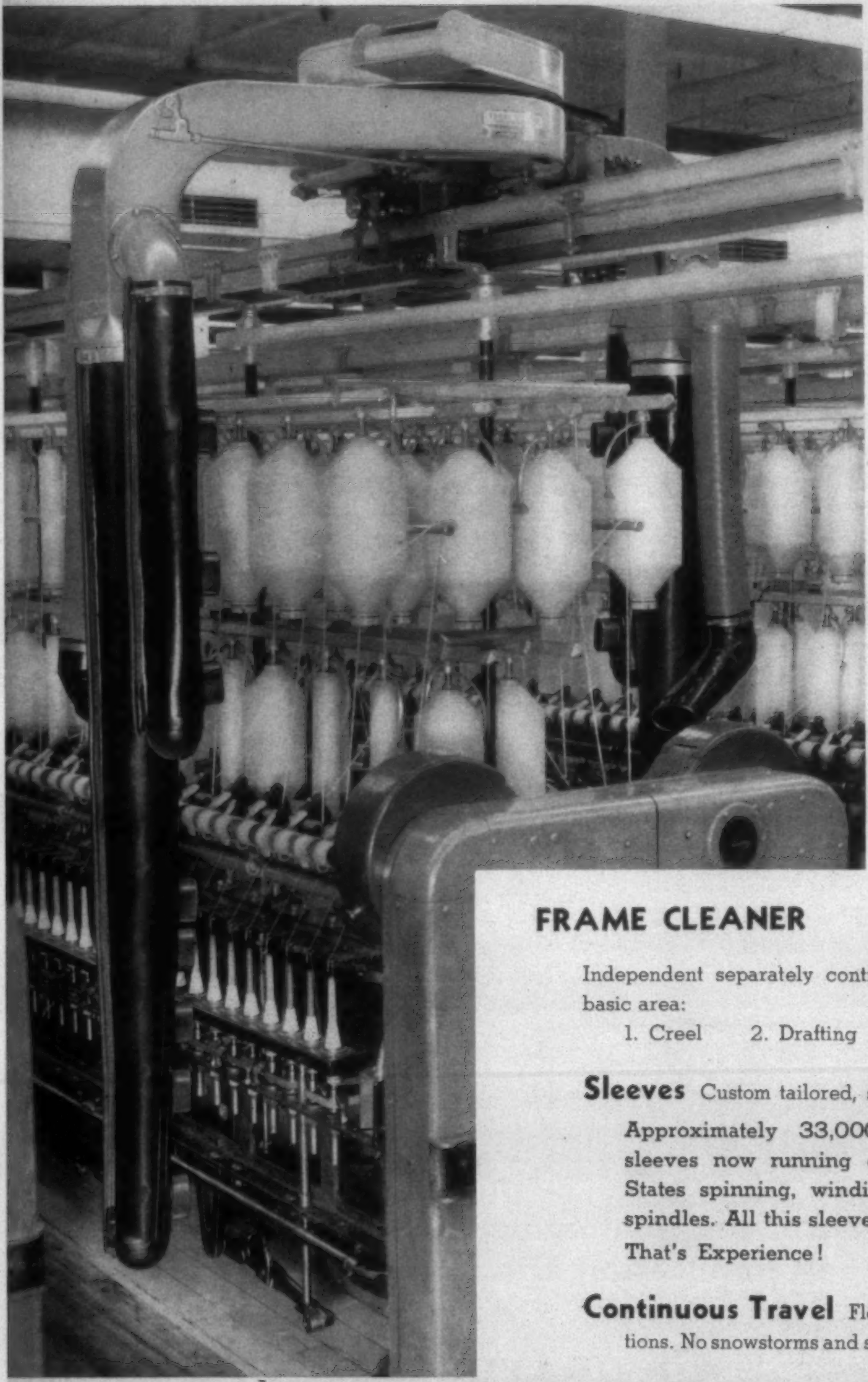
• ShuR-CusH vibration pads • ShuR-TufF harness strapping • woven felts • felt cut parts • ShuR-TufF wirecenter harness cords • hookless harness adjustors • dobby and gem head stirrups, loops, jackeyes • positive adjustment jack sticks and parts • neva wear case hardened jack hooks • turnbuckle harness adjustors and regulators • adhesives and cements • sheaves • static eliminators • hand dryers • • laminated picker sticks, sweep sticks, power adjustors • pickers, check straps, belting • temple rolls, shell rolls, beam barrels • shuttle fur • clear plastic for loom aprons, covers, dividers • leece rods, warp clamps, loom flags • castings—aluminum, brass • mats and matting • • fancies or fancy rolls for cards • jacquard twine and neck cord • set mark preventors for looms • harness connectors—fibre, fabric, leather • bumpers • yarn tinting devices for looms and quillers • ShuR-TufF lug straps • shuttle and bobbin protectors • time clocks, watchmen clocks • shuttle pegs and bristles • oilless bushings • lug hold ups • take up roll covering • harness and leader wires • "C" hooks and "S" hooks

Cut Application Time and Maintenance Cost. Draper original repair parts are designed to meet specific loom conditions. Range of fabrics, loom speed, loom size and model, all influence the development of a Draper original repair part. Ease of application and accessibility are prime requisites in their manufacture. Original Draper parts cost less in the long run.

DRAPER CORPORATION

HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N. C. • SPARTANBURG, S. C.

Parks-Cramer CTG



More Power

Less Weight

Better Cleaning

Revolving ROOM CLEANER

Continuously turning air streams, horizontal and up-draft, clean places not reached by other overhead cleaners.

FRAME CLEANER

Independent separately controlled air streams for each basic area:

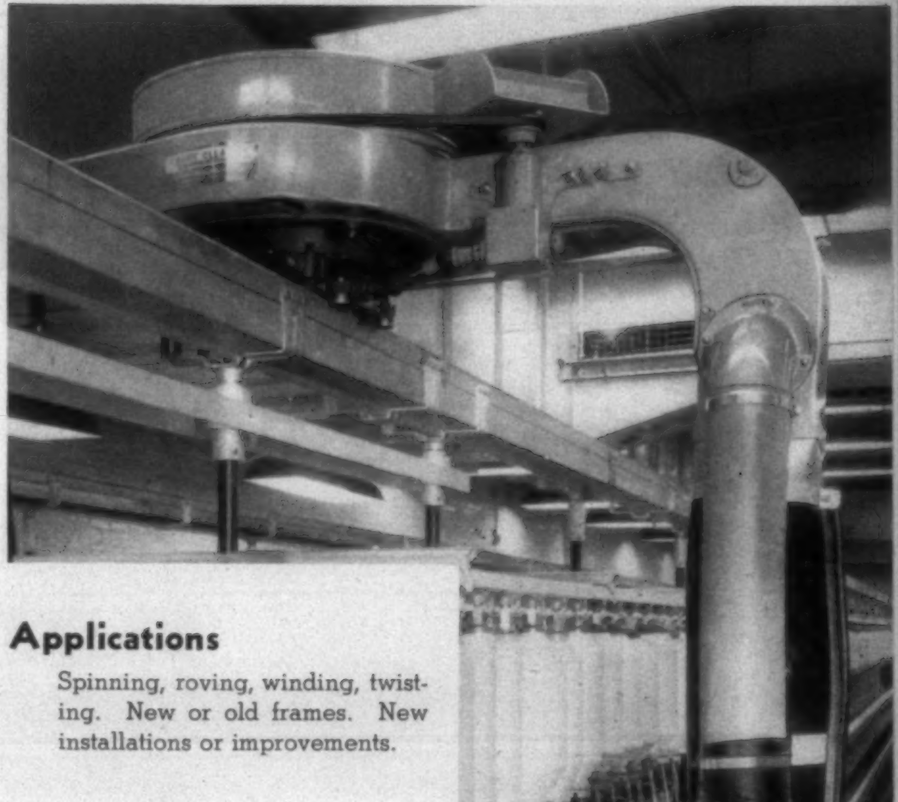
1. Creel 2. Drafting 3. Side and underframe

Sleeves Custom tailored, smooth, snag-proof, flexible.

Approximately 33,000 Parks-Cramer flexible sleeves now running over 16,000,000 United States spinning, winding, twisting, and roving spindles. All this sleeve development since 1949. That's Experience!

Continuous Travel Flexible sleeves pass obstructions. No snowstorms and slubs from interrupted travel.

Frame and Room Cleaner



Automatic Dampers

Instantly reduce air from sleeves when over idle frame, etc. Idle frame lightly cleaned. No let-up in ceiling cleaning.

Adjustable Dampers

For limiting air velocity to creel and drafting areas.

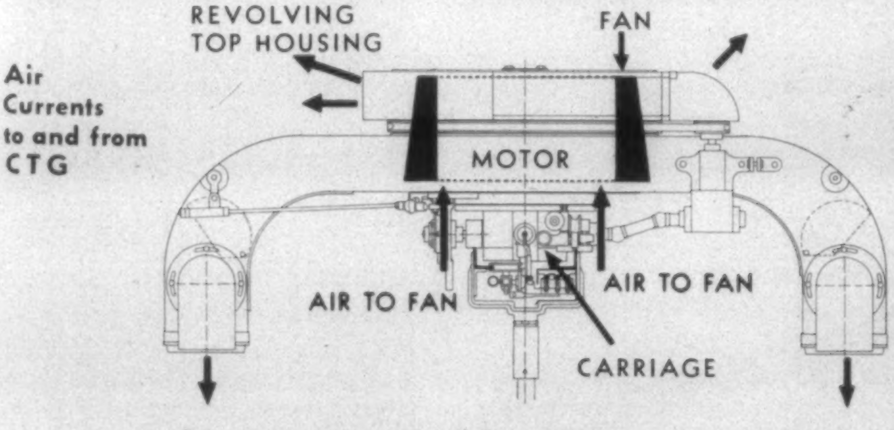
Other Features

Powerful 3 h.p. unit, well supported on standard Parks-Cramer two-rail track. Total weight only 184 pounds, concentrated over track. Earlier Parks-Cramer track readily reinforced for CTG.

Unit cleans itself and track. Paddle fan—self-cleaning. No separate tractor. Travel direction—single or reversing. 110 or 220 volts, low amperage.

Applications

Spinning, roving, winding, twisting. New or old frames. New installations or improvements.



One motor surrounded by one fan on one carriage.

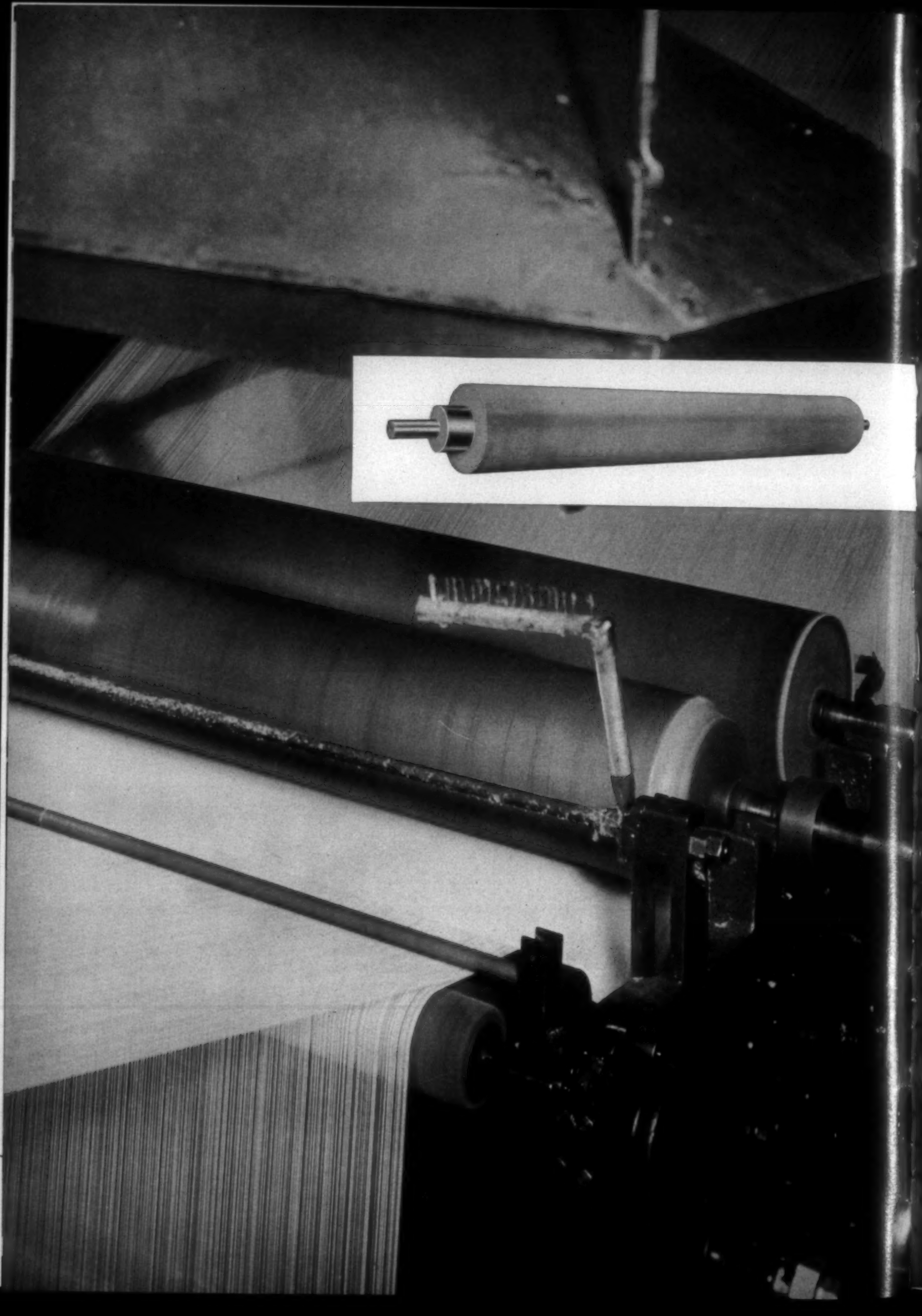
SIMPLE—ATTRACTIVE—MINIMUM MAINTENANCE

For Total Cleaning, use CTG blowing unit coupled to CTV Traveling Vacuum Unit (not illustrated)—sweeps the floor and takes away the lint.

Parks-Cramer Company

FITCHBURG, MASS.   CHARLOTTE, N.C.   ATLANTA, GA.

Traveling Cleaners since 1926



RUN PERFECT

Warps at Lower Cost

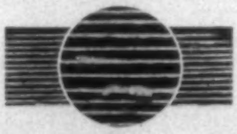
with Dayco Thoro-size Slasher Rolls

EFFICIENT SIZING is automatic with Dayco Thoro-size Slasher Rolls. Their perfectly resilient surface insures accurate, consistent metering of just the right amount of starch for smooth, clean sizing. There's no waste, for the excess is squeegeed back into the tank for re-use.

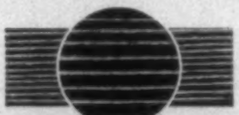
TROUBLE-FREE OPERATION gives you up to 45% greater production. Time-saving Dayco Slasher Rolls have no cover or blankets to change or become hard . . . never need warming up . . . stay in place while you're changing sets.

PAID FOR IN 6 MONTHS, through savings in time and materials, Dayco Thoro-size Slasher Rolls can be reground after a year or more of service to restore their like-new condition. This economy feature, plus the fact that they are unaffected by oils or chemicals, adds years to the life of your Dayco Rolls.

LOOK! NO LAP MARKS or flattened yarn, all due to the seamless construction of Dayco Thoro-size Slasher Rolls. The result is a flawless surface free of streaks and spots. Make your own comparison from the samples shown.



Irregular sizing denotes inadequate control of ordinary slasher rolls



Clean, uniform sizing proves superior performance of Dayco slasher rolls

Get the full story on how you can save time and money while improving your slashing quality. Ask the Dayton Representative next time he calls or write The Dayton Rubber Company, 401 S. C. Nat'l Bank Bldg., Greenville, S. C.

Dayton Rubber

Dayco and Thorobred Textile Products for Better Spinning and Weaving.

ACRILAN* is now on view in more and more shirts, slacks, skirts, dresses, blouses, infants' wear, children's clothes and uniforms. Go with the proven fiber: ACRILAN.

Are your fabrics in the picture?

*Registered trademark of The Chemstrand Corporation for its acrylic fiber

Chemstrand makes only the fiber; America's finest mills and manufacturers do the rest.

THE CHEMSTRAND CORPORATION • GENERAL SALES OFFICES: 350 FIFTH AVENUE, NEW YORK 1, N. Y.

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the Soromine® Family

of Textile Softeners

. . . Economical — Easy-To-Apply . . .

Soromine AL softens fabrics and thread, improves sewing and napping qualities, gives finished goods a full, rich hand. The lubricity it imparts minimizes needle heating and fiber cutting. *A white amphoteric softener, with a special lubricant, in smooth paste form.*

Soromine AT lubricates and softens bleached, dyed, and printed textiles of animal, cellulosic, and synthetic fibers–including fabrics treated with thermoplastic or thermosetting resins. *A white amphoteric softener in creamy paste form, which does not yellow in normal use.*

Soromine CS softens and lubricates cotton, viscose, acetate, wool, nylon, Orlon* polyacrylic fiber, Dacron* polyester fiber, and silk in all forms, (stock, yarn, and fabrics of all types) — also useful with thermoplastic and thermosetting resins — highly resistant to yellowing — and has minimum effect on the light fastness of colors. *A white cationic softener in smooth paste form.*

Get acquainted with the SOROMINE softeners.
Samples and application data on request.

*E. I. du Pont de Nemours & Company, Inc.

gaf gdc ANTARA

From Research to Reality

GENERAL DYESTUFF COMPANY · ANTARA CHEMICALS
SALES DIVISIONS OF GENERAL ANILINE & FILM CORPORATION
435 HUDSON STREET · NEW YORK 14, N. Y.

SALES OFFICES: New York • Providence • Philadelphia • Charlotte • Chattanooga • Chicago
Portland, Ore. • San Francisco • Los Angeles. IN CANADA: Chemical Developments of Canada, Ltd., Montreal

SOROMINE, manufactured by General Aniline & Film Corp., is sold outside the United States and Canada under the trade name "Blandofen" by distributors all over the world.

ARNEL'S "STAMPS" OF CONSUMER APPROVAL

Consumer acceptance of Arnel triacetate works for you just as resultfully as you work with Arnel. You know Arnel for its ease of processing in the mill. The consumer knows Arnel for its ease-of-care. You know Arnel can be handled on all standard mill equipment. Mr. and Mrs. Consumer know that properly constructed Arnel fabrics offer both beauty and performance.

You see one side of Arnel—consumers the other. Let's consider MACHINE WASHABILITY.

To the consumer:

1. Almost all properly constructed fabrics containing 50% or more Arnel triacetate are completely machine washable.
2. *No* special care is necessary as regards the use of a detergent in laundering Arnel fabrics.
3. All 100% Arnel fabrics are unaffected by bleaches used in ordinary household or commercial laundry procedure.
4. All fabrics carrying the official Arnel symbol have been pretested for performance claimed—including machine washability. (Tests are conducted free of charge by the Celanese Corporation of America.)

To take advantage of the great consumer acceptance of Arnel, let Celanese work with you to develop new constructions in Arnel fabrics. Booklets 12A, 13A and 14A, containing the important technical procedure and facts about Arnel, are available by writing Celanese Corporation of America, Box 1414, Charlotte, N.C.

Celanese® Arnel®

District Sales Offices:

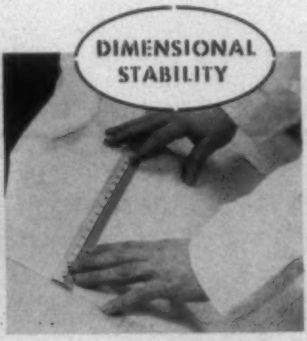
180 Madison Ave., New York 16, N.Y.
Room 10-141 Merchandise Mart, Chicago 54, Ill.
P. O. Box 1414, Charlotte 1, N. C.
200 Boylston St., Chestnut Hill 67, Mass.
3179 Maple Drive N. E., Atlanta 5, Ga.

Export Sales:

Amcel Co., Inc., and Pan Amcel Co., Inc.
180 Madison Ave., New York 16, N.Y.

In Canada:

Chemcel Fibres Limited
1600 Dorchester Street West, Montreal, Quebec



Arnel . . . a

#1 in a series of ads reviewing the "reasons-why" for the consumer *acceptance of Arnel.*

ARNEL*

*This is the official Arnel symbol—evidence that this fabric of this new triacetate fiber has been pre-tested for performance claimed.

Celanese contemporary fiber

Bahnson

AIR-O-MATION FOR 1959

AIR AT WORK FOR INCREASED PROFITS

CONDITIONS • CLEANS • COLLECTS • CONVEYS

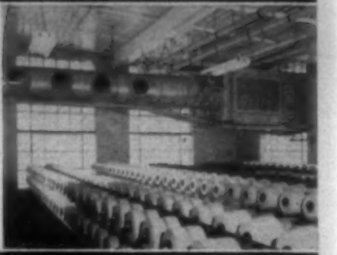
AIR CONDITIONING

CENTRAL STATION SYSTEMS

Custom designed and built to your individual plant requirements with cooling by evaporation or refrigeration and complete with Bahnson engineered and manufactured components such as Type Y Air Washer, controls, grilles, dampers, automatic suction strainers and lint filters. Bulletin 22A has full information.

HUMIDUCT UNIT SYSTEMS

Flexible unit system of Bahnson design. Provides all or any combination of textile air conditioning functions including cooling by evaporation or with refrigeration. Humiducts are self-contained and light enough in weight to be ceiling suspended, eliminating costly apparatus rooms and structural changes. Bulletin 4A contains complete details.



VACUUM COLLECTION

COLLECTO-VAC

Automatically collects broken ends, lint, fly on spinning frames. More uniform suction pressure the length of frame at lower horsepower. Anodized aluminum flutes do not warp or crack. Scroll type fan discharge disperses motor alley heat. Bulletin 30A has details.

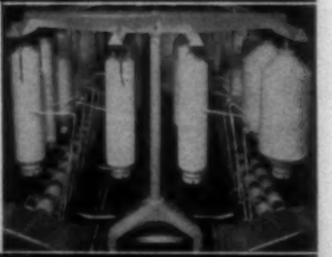
Central Heat Removal System

Takes out heat from collection units, motor alley, lowers room heat load. Can be added to existing collection systems.

CREELS

OPEN AIRE CREEL

Open creel design, enamel finished with specially constructed, factory assembled steel supports and crossarms. Crossarms are notched for greater lateral strength. Bahnson-designed weight wire positioners keep weights in correct operating position at all times. Open Aire Creel furnished also with new spinning machinery purchases upon request.



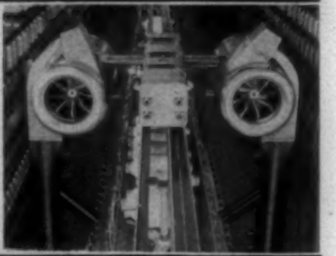
CLEANING

AERO-SWEEP CLEANER

Automatic oscillating traveling cleaner self-propelled along single ceiling suspended track. Cleaner blows perpendicular to track delivering head-on air blasts for more effective overhead cleaning of ceiling, beams, lights and piping. Has patented index feature for cleaning predetermined pattern. Write for Bulletin 21A.

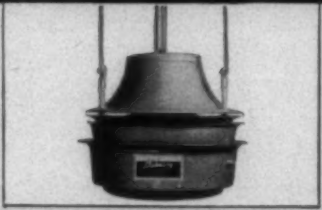
CROSS JET CLEANER

New cleaning principle with fixed and oscillating air discharge nozzles. The Cross Jet is self-propelled and operates on single rail creel-mounted track. Cleans entire frame, as well as walls, ceilings, beams, lights, etc.



HUMIDIFICATION

Bahnson makes the world's most complete line of industrial humidification equipment. A type for every need is available of which only three models are shown. Whether for small rooms, large areas, or for supplementary evaporation, Bahnson designs and manufactures the best and most economical system to solve your humidification problem. Catalog Section 104 details complete line.



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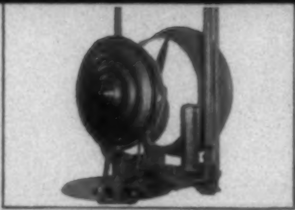
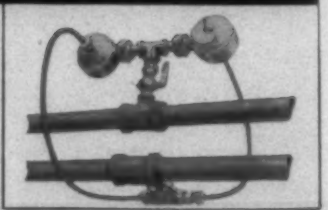


TYPE H



TYPE ESC ATOMIZERS

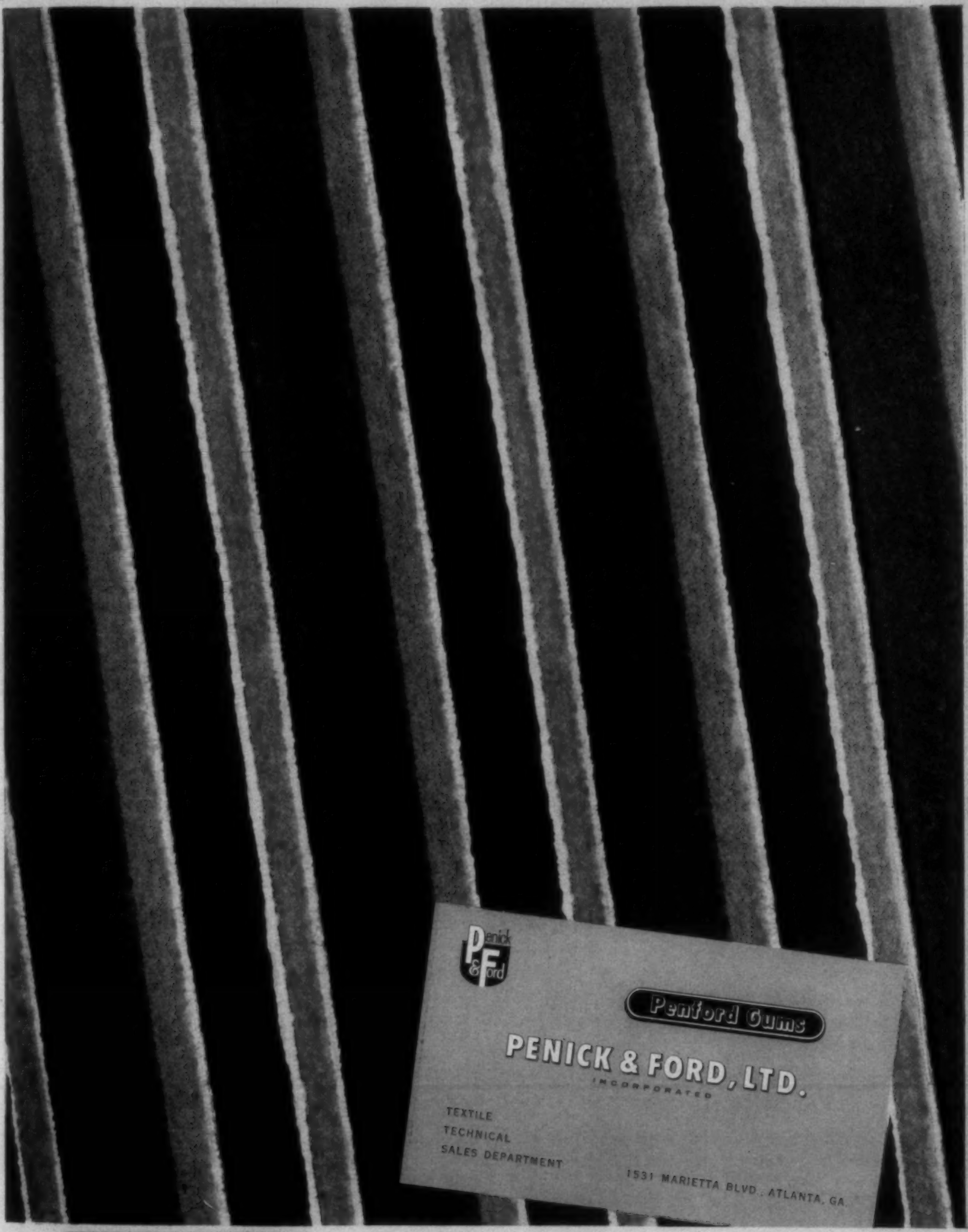
FOR DYERS AND FINISHERS

Bahnson can supply complete ventilation, exhaust and vapor absorption systems designed to fit specific requirements for Dyeing and Finishing operations.

91 of the top 100

textile manufacturing firms in the nation are users of Bahnson equipment!

Bahnson
COMPANY
WINSTON-SALEM, N. C., U. S. A.

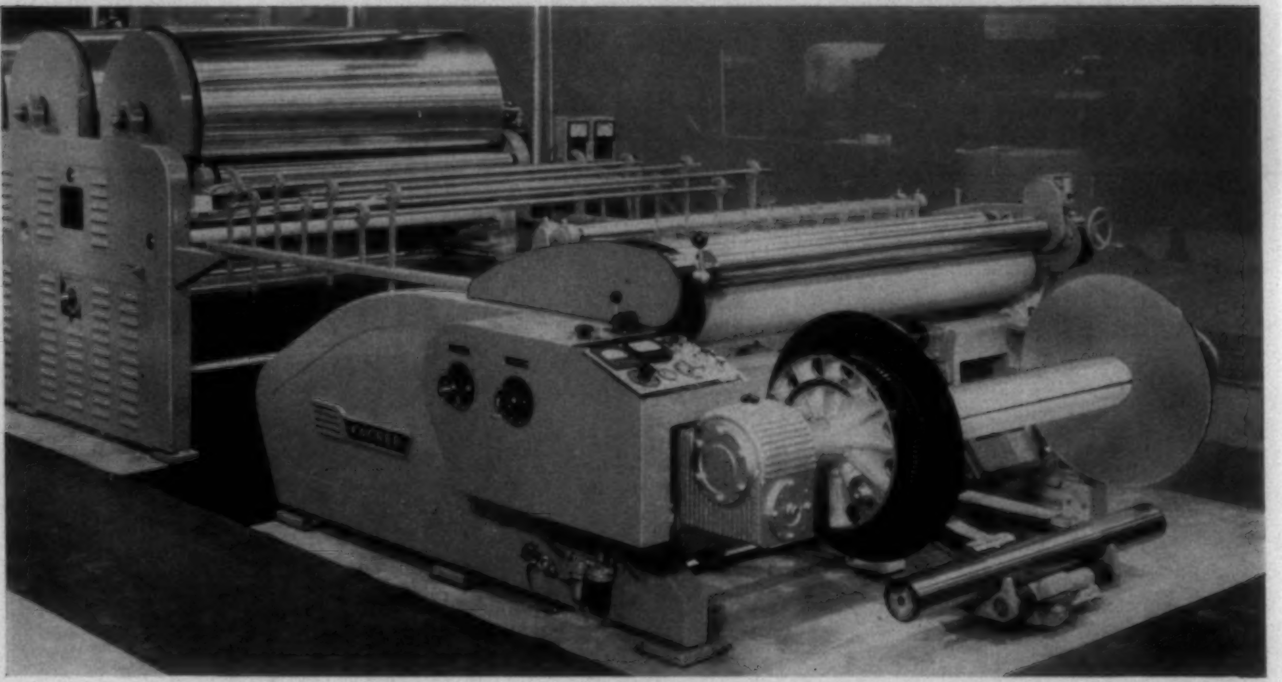


Penford Gums THE **MODERN** WARP SIZING FOR **MODERN** WEAVING

Penford Gums provide exceptional warp yarn protection in weaving all modern fabrics — Viscose, Cotton, Worsted, Acetate, Nylon, Dacron, Acrilan, Orlon, Dynel, Zefran and blends.

There is a Penford Gum that will fit your warp sizing requirements. Penick & Ford Technical Sales Service Engineers will gladly assist you by recommending exact formulations and will provide continuous technical service. Write us today.

MODERN



SLASHERS

WHY COCKER SLASHERS ARE WORTH MORE

The New Cocker G H Slasher • Production up to 1600 lbs./hr.

WORTH MORE IN PRODUCTION AND ECONOMY Consistently, over the years, Cocker Slashers have offered valuable extras . . . not incorporated in other equipment until years later . . . which produce more and better warps for less money.

WORTH MORE IN YEARS OF SERVICE Due to their advanced features, Cocker Slashers will serve you efficiently for years after other equipment has become obsolete.

WORTH MORE IN DEPENDABILITY Rugged construction and Cocker's unmatched reputation for prompt service assure uninterrupted operation. With hundreds of looms depending on one slasher you can't afford less than Cocker dependability and service.

No slasher, *regardless of price,* is a bargain unless it has all of the most modern features and only the Cocker Slasher is now . . . as it has always been at any time . . . the only completely modern slasher on the market.

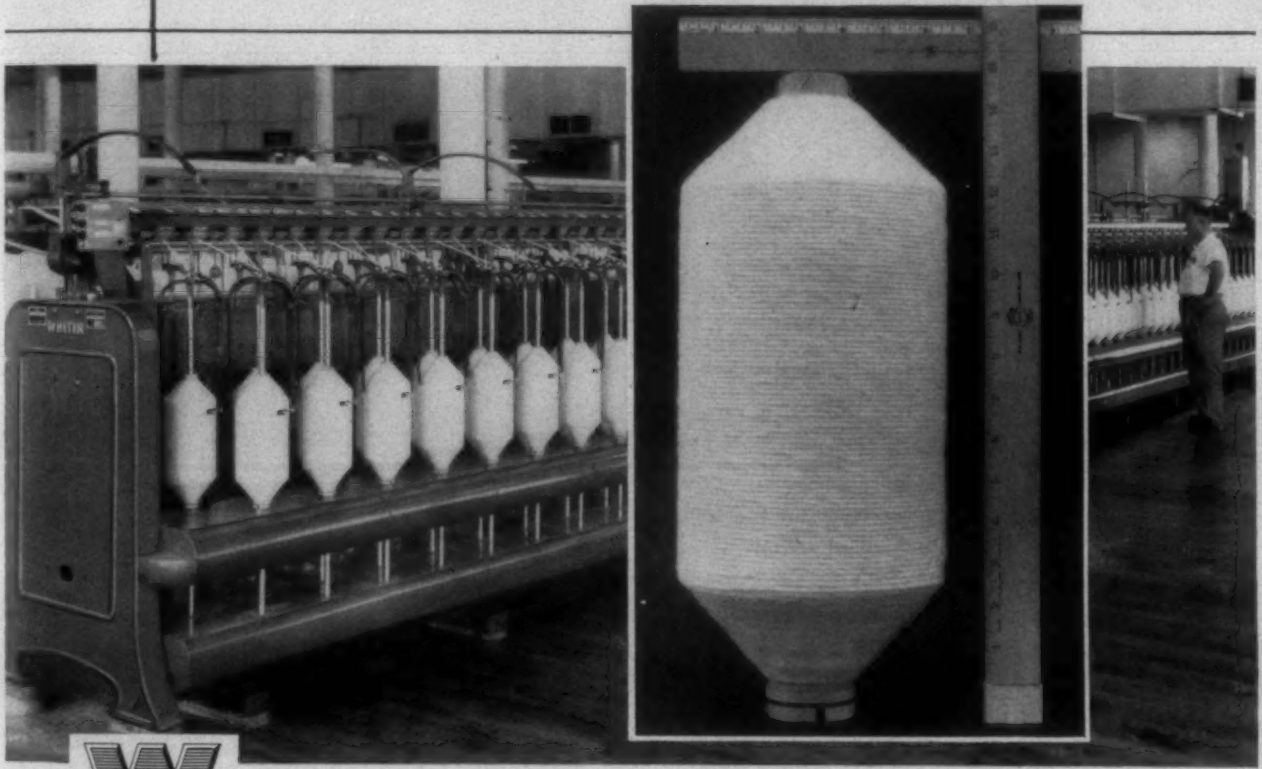
COCKER MACHINE & FOUNDRY COMPANY

IN CANADA:
Contact W. S. Clark
Montreal, Canada
Melrose 1-3751

PLANT & OFFICES
at Ranlo, N. C.
MAILING ADDRESS
Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

Now... reduce costs with NEW Whitin ECONOMY-SIZE roving packages



*TRADE MARK

Whitin again announces another cost-cutting machine! The improved 14" x 6½" Long-Draft HI-PRO* roving frame now offers you all the advantages of larger packages — lower doffing costs and higher efficiency at the same standard speeds as the 12" x 6½" — *and* a substantial saving, too, of from 30-200% in spinning creeling costs with new 85-90 ounce bobbins.

If you are now using Whitin 12" x 6½" Long-Draft frames, it will pay you to investigate the savings to be made by modifying your present equipment to accommodate 14" x 6½" bobbins and by applying any or all of the improvements now standard on the new Whitin 14" x 6½".

New frame improvements include:

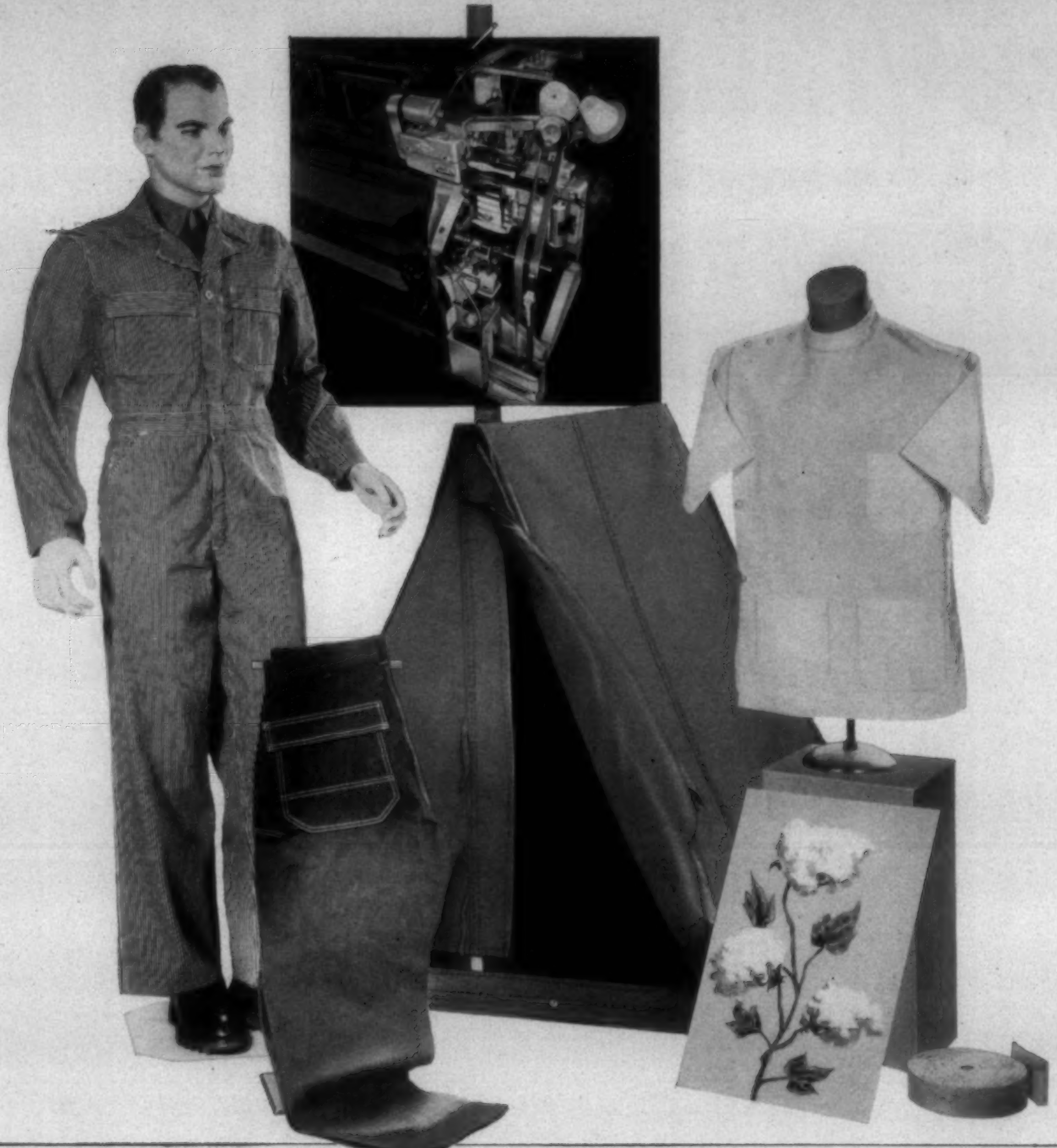
- **UNITROL or unit spring weighting**
- **New clearers**
- **Quick skip gears**
- **Chain drive to twist gears**
- **Helical gearing in head end**
- **Helical bonnet and spindle drive**
- **Anti-friction bearings at all important points**

Write now for further information . . .

WHITIN MACHINE WORKS

WHITINSVILLE • MASSACHUSETTS,

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.



Automate your cotton looms by "weaving-from-a-cone"
with **UNIFIL**® *Loom Winders...*

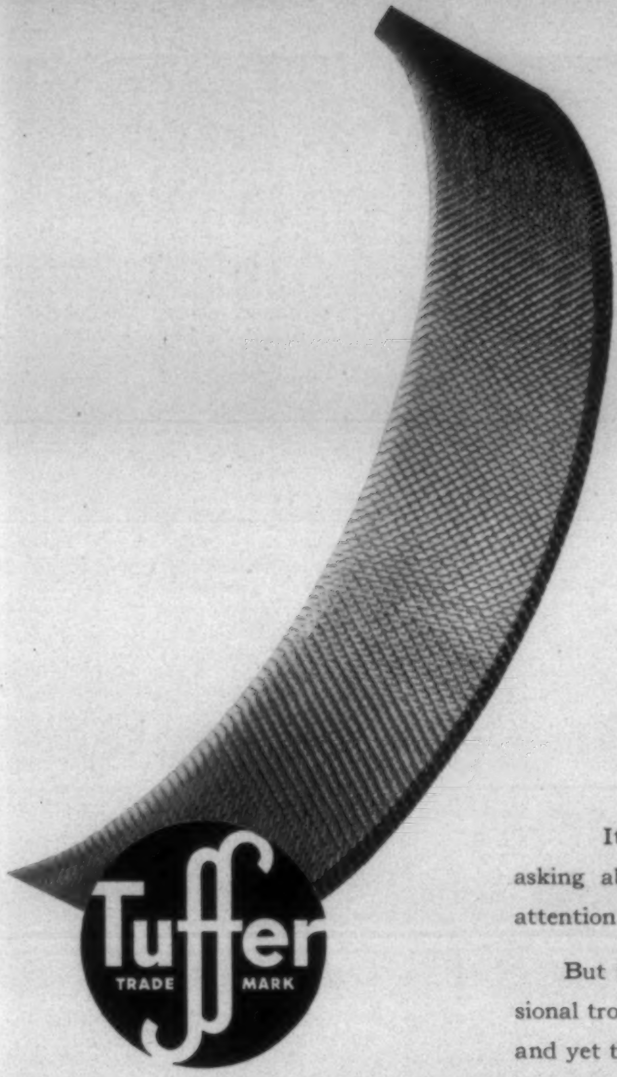
You can weave higher quality cotton fabrics at lower cost per yard, by installing UNIFIL Loom Winders.

The UNIFIL Winder brings the entire process of filling preparation right to the loom. It automatically winds, loads the shuttle, strips and returns empty quills to the winder. Tension variation is held to a minimum... quill soilage and mixed fillings are virtually impossible! Savings in quill handling alone quickly pay for UNIFIL. And cloth quality is *automatically* better on every yard you run, because of better prepared filling and improved transfer conditions. Thousands of UNIFIL Winders are daily improving the weaving of filament and spun fabrics, as well as cotton.

Find out how UNIFIL Loom Winders can improve cotton weaving and profits in *your* mill. Ask your Universal Sales Engineer, or write Universal Winding Company, P. O. Box 1605, Providence 1, Rhode Island.

LEESONA® UNIVERSAL WINDING COMPANY

Boston • Philadelphia • Charlotte • Atlanta • Los Angeles • Montreal and Hamilton, Canada



What is YOUR Carding Problem?

It's not so much the BIG problems in the card room we're asking about. They're quickly recognized and get immediate attention.

But it's the pesky little ones . . . those that cause only occasional trouble. You're more apt to put them off "for a little while," and yet they are eating up useful production time.

It could be a little slippage on the roll,
or improper alignment of the teeth, due to jambs,
or points not properly ground,
or the need for a *special* clothing for synthetic fibres.

Little troubles can become BIG problems in time.

Check them *now*, with the help of a Tuffer Sales Engineer. He has the experience of over 90 years behind him—in both card clothing research and production.

Call or Write to Our Home Office
for Immediate Attention—No Obligation

TUFFER PRODUCTS

- Card Clothing for Woolen, Worsted, Cotton, Asbestos and Man-made Fibers
- Napper Clothing and Brushes
- Top Flats re-covered and extra sets loaned at all Plants
- Lickerins rewired at Southern Plants
- Hand Stripping Cards

HOWARD BROS.

WORCESTER 8, MASSACHUSETTS
Southern Plants: Atlanta, Ga., Gastonia, N. C., Greenville, S. C.
Direct Representation in Canada

592

For The Textile Industry's Use

— NEW MACHINERY, EQUIPMENT AND SUPPLIES —

Super Lap Preparation

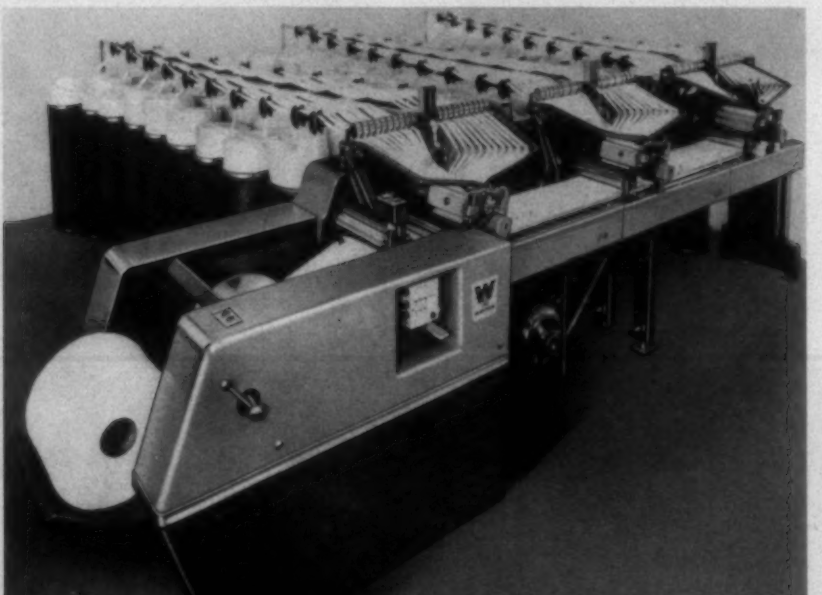
Whitin Machine Works, Whitinsville, Mass., has announced its new Super Lap preparation method. A product of two years' development and mill trial operation, the method's efficiency permits up to 3% noil reduction in combing and increases comber production, according to Whitin engineers. This saving is said to permit the installation to pay for itself in approximately one year in an average textile mill. The new Super Lap preparation method includes utilization of the Even Draft drawing frame and a new Super Lap machine. This newly-designed machine produces comber laps from drawing sliver; it was especially developed to serve as the second unit in Super Lap preparation.

Freeing the comber from straightening and parallelizing, the new lap preparation method simplifies the comber's function of removing short fibers and neps. Moreover, the heavier laps prepared by the new method are the optimum weight for maximum comber efficiency; thus up to 20 to 25% higher comber production is achieved. The assigned task of Super Lap preparation is drafting and doubling sliver, straightening and parallelizing, removal of fiber hooks and preparation of the lap.

Super Lap preparation consists of two machines since two draftings are required —one in each direction—to remove both leading and trailing hooks. Whitin's high-speed Even Draft drawing frame is said to be ideally suited for the first operation and the new Super Lap machine is specifically designed for the second draft in the reverse direction. The combination produces up to four times larger total draft in both directions, four times the doubling and twice the production than older methods of lap preparation. Additionally, it permits greatly increased comber production from the use of a heavier lap, improved nep removal and noil reduction, it is reported.

Using a can creel, 60 slivers are fed into the Super Lap, 20 each in three heads. The ends pass downward through a special two-over-three drafting system and along a table where the output of the three heads are combined into one lap. Combined sheets, 11¾" wide, are drawn through the calender rolls and wound into lap form. The lap is automatically ejected onto a receiving tray when it reaches the required size. Slivers are supported in their passage by a creel with individual supports equipped with electric stop motions to detect breaks. Other stop motions are provided at top rolls and calender section.

After lengthy experiment, the two-over-three drafting system was adopted to secure optimum results in drafting the large fiber mass involved—up to approximately 4,200 gr. for a 1,000 gr./yd. lap. Large rolls, mounted in anti-friction bearings, secure the fibers firmly and operate at high speeds without heating or bending. Total weighting on each line of rolls is 250 lbs. supplied by precalibrated springs mounted in top arms over each end of the top rolls. A convenient handle permits easy weighting removal. Super Lap production is reported to be approximately 500 lbs. per hour.

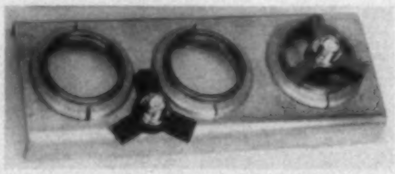


Whitin's new preparatory machine straightens fibers, makes them parallel and produces the roll seen at left.

Laboratory analysis of fiber arrangement prepared by the Super Lap preparation method is said to show the fibers are parallel and that leading and trailing hooks have been removed. The lap, which may have any desired weight up to 1,000 gr./yd., or higher if desired, is the most desirable feed unit for the comber.

(Request Item No. C-1)

Ring Rail Level



Williams Machine & Tool Co. is offering this new level especially designed for rings and ring rails.

A new ring rail level has been announced by the Williams Machine & Tool Co., Charlotte, N. C. The device may be used for levelling any surface but is designed specifically with rings and ring rails in mind. It is made of cast iron which is ground on both sides. A precision level is mounted in the center. The device comes to suit various ring sizes up to 6". Levels for rings up to 2½" in diameter sell for $10. From 2½ to 6" ring diameter levels sell for $12.50. (Request Item No. C-2)

Gear Runout Tester

Custom Scientific Instruments Inc. has added the West Point gear runout tester to its line of standard instruments. This unit is a development of the West Point Mfg. Co. Gear runout causes variations in angular velocity of the rolls and this in turn causes variations in the stock, the company reports. This device is a simple version of the conventional gear rolling fixture, and is designed primarily for checking total composite error and not for checking center distance between gears. However, the center distance could be checked by calibrating or setting up a fixed distance between the arbors.

The unit consists of a meehanite cast base on which is mounted two gear stud bases. The fixed base mounts a master gear with a 1" bore. The sliding base mounts the test gear. Adapter bushings available are ⅝, ¾, 13/16, ⅞, 1, 1⅛ and 1¼" nominal gear bore. The test gear is moved into contact with the master gear while the loading

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- **Unique Design for Top Drive Filling**
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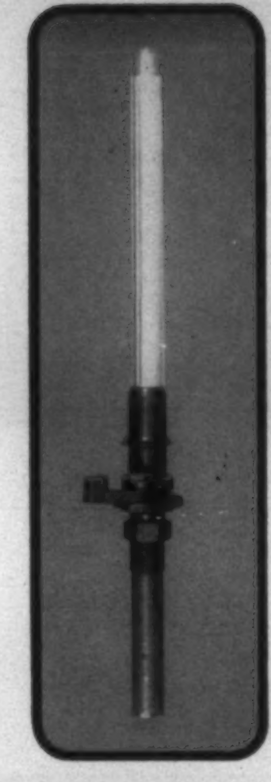
- **Simple Finger-Tip Cam-Brake Optional**



Supreme Spindles are manufactured to super-precision tolerances and are unconditionally guaranteed. Ball bearings and boots are guaranteed in normal use for five years.

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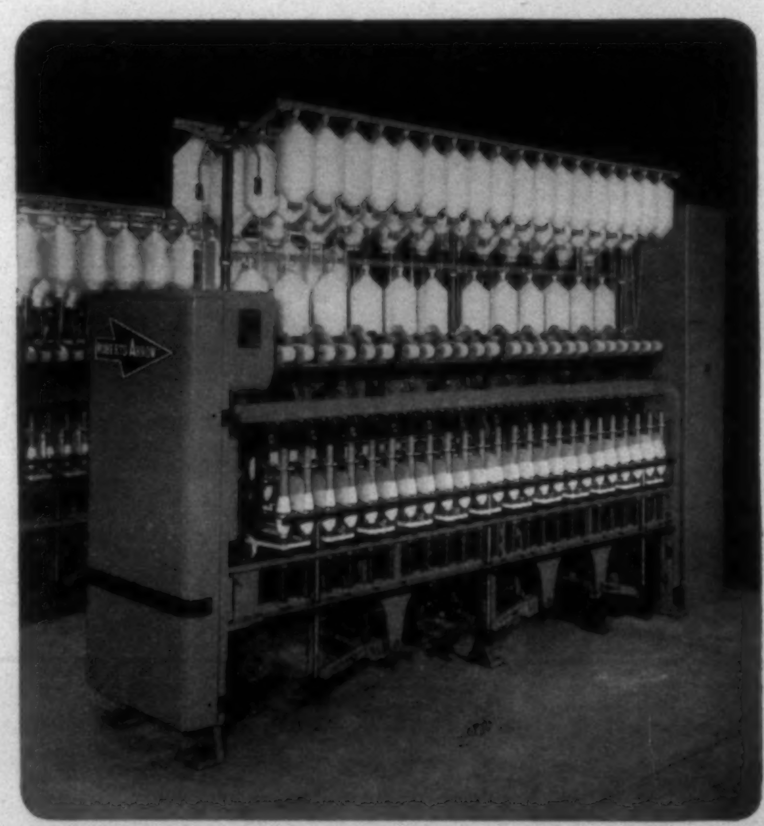

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Roberts All-Ball-Bearing Head
Unitized Sectional Frame
AeroCreel with Latch-Type Bobbin Holders
Flexibility For Cotton And Synthetics

ROBERTS COMPANY
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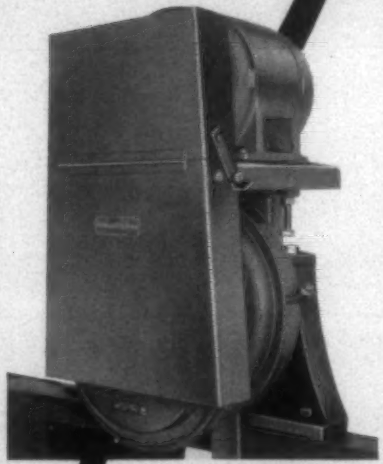

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Easy to install! Compact, shaft-mounted 5-to-1 reduction unit slips on like a sheave . . . easy to **dismount** and relocate. Requires only one 3/8" hole in card frame.

Improved production! 25% variation in speed allows adjustment to most efficient carding level within minutes. Set and forget . . . or adjust as often as you want. Belt tension-controlled by built-in motor mount.

No more jogging! Centrifugal clutch permits hand stripping while card comes up to speed.

Clean, compact package! Promotes more efficient plant layout and housekeeping . . . greater safety . . . no overhead belts . . . uniform high quality of product.

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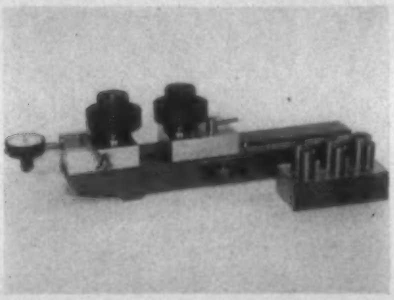


The West Point gear runout tester has been added to the C.S.I. line of standard instruments.

device is compressed one half its stroke. The test gear slide is locked and the loading device on the master gear is released to apply load to test gear and assure proper contact. The dial indicator is set at zero (.0005" direct reading) and the test gear is slowly rotated to observe the total runout. (Request Item No. C-3)

Long-Life Flats

Oliver D. Landis Inc., Gastonia, N. C., is now making available the Rigida flats which are said to work 20,000 hours without regrinding. The flats feature short strong, oval shaped teeth in Swedish spring steel wire which are precision side-ground and have Duropan hardened points. They also feature interval setting and a green plastic foundation which is easy to keep clean. Advantages said to result from the use of the flats are less lost production time, less grinding work, fewer top-strips and cleaner web with lower nep count. The devices are manufactured by AB Kardbeslag, Norrkoping, Sweden. (Request Item No. C-4)

Resin Removal Aid

Emkatex NTA, a chemical formulation to minimize tendering of fabrics during the removal of crease-resistant resins with acid has been developed by Emkay Chemical Co., Elizabeth, N. J. Emkatex NTA is applied to the goods as a protective colloid just before the addition of the muriatic acid. The product also acts as a lubricant, keeping the goods soft and pliable during this resin removal, helping greatly to keep the goods in good condition for re-dyeing and re-finishing. The formulation is available in 450-lb. drums. (Request Item No. C-5)

Multi-Switch Indicator

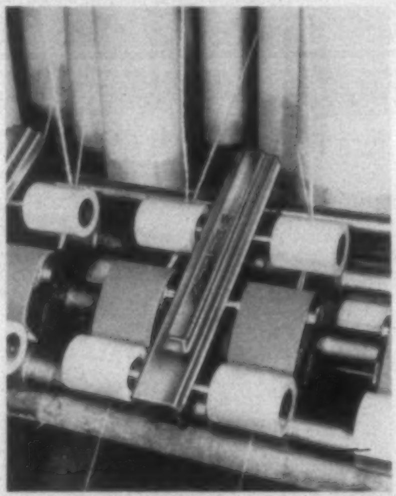
A new multi-switch indicator has been announced by the Wheelco Instruments Division of the Barber-Colman Co., Rockford, Ill. For rapidly checking temperatures at many points, the 9000 Series multi-switch indicator is available with switching details that allow the instrument to be used for as many as 108 stations. Additional stations may be added by the use of an additional switch housing cabinet. The basic instrument is a completely self-contained, null-balance unit and requires only the external sensing devices. It has been designed for long life, trouble-free service and simplicity of operation.

The selector switches are three-position spring return type with DPDT action. The Wheelco 9000 multi-switch indicator uses an 11" scale either single or dual range. Balance speeds are fast, with a choice of 2, 4 or 15 seconds. Reference junction compensation is automatic. The standard reference system is a constant voltage source with standard cell and battery being optional. Sensitivity is 5 microvolts for scale spans in the pyrometric range. With proper circuitry and the use of transducers other variables such as speed, strain and other quantities may be indicated. (Request Item No. C-6)

Premetallized Olive Shade

Lanasyn Olive 2GL p.a.f., a new homogeneous 2:1 metal complex dye, has just been added to the Sandoz series of Lanasyn dyes for wool, nylon and silk. It is said to be the fastest to light of the true olives. Because of its high solubility, it is especially recommended for package dyeing and vigoureaux printing. Its shade and list of properties may be seen in Sandoz publications available in the company's district offices. (Request Item No. C-7)

Top Arm For Spinning



The Whitin S T A top arm features sliding cover for easy pressure removal. All rolls are of the ball bearing type.

Whitin Machine Works, Whitinsville, Mass., offers a new spring weighting top arm for spinning, featuring ball bearing top rolls on all three lines. The new changeover equipment, called the Whitin S T A top arm, has three saddles attached to a "U" shaped arm by set screws providing for settings from 1⅝"-2½" in both drafting zones. Each saddle contains two coil springs.

The unit is fastened to the roller beam by a stirrup and spring hook and uses existing level screw holes. Normal weighting is 20 lbs. on back and middle rolls, with 30 lbs. on front roll. Weight changes can be made by changing coil springs.

The unit also features a streamlined cover which slides forward to give leverage for simplifying weighting and unweighting. The top arm unit is fitted to the back by a rod and held in any lifted position by an inside brake. Front top roll is loose-boss type; middle and back rolls are fixed-boss types. The ball bearings are said to need lubrication only after 20,000 working hours. Buffing can be done on conventional equipment. (Request Item No. C-8)

Safety Gasoline Can

Eagle Mfg. Co.'s new safety bench can has a spring-actuated dasher to reduce evaporation losses and minimize explosive vapors.

The problem of cleaning small metal parts in gasoline is said to be solved by a new safety bench can recently introduced by Eagle Mfg. Co., Wellsburg, W. Va. To minimize waste and speed the operation of cleaning small parts or swabbing larger ones, Eagle has designed special features into the new can. It has a spring-actuated dasher which is perforated and flush with the top of the can to reduce evaporation losses and minimize explosive vapors. The dasher, coupled wih baffles, protects contents of the can from fire. The entire can is constructed of heavy-gauge coated sheet steel, with red enamel exterior finish.

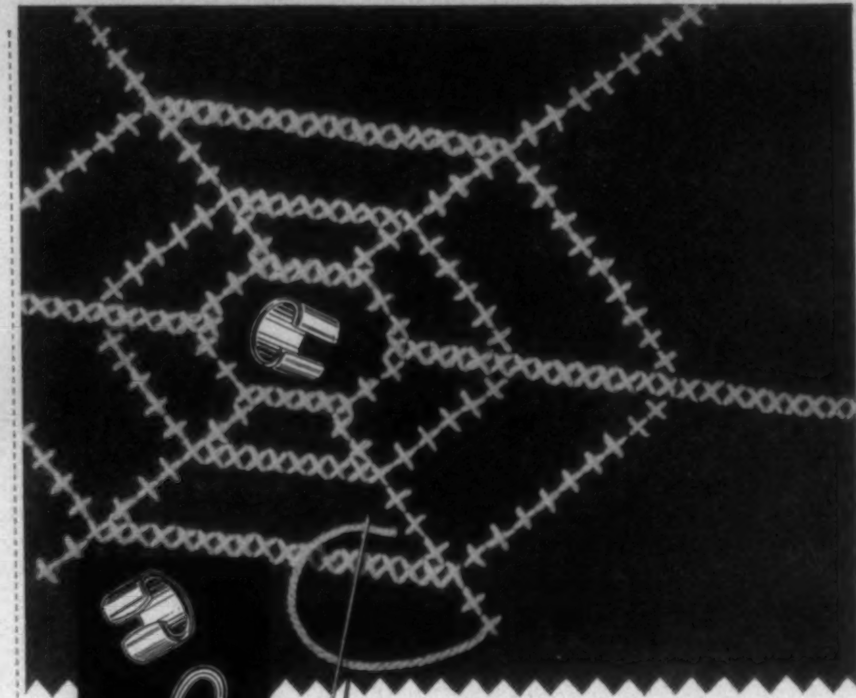
Also recently announced is a new Eagle drip can, to be used to reduce fire hazard where a faucet may drip or where a slow leak is likely. Each of the two new Eagle cans comes packed only one to the carton. The safety bench cans are available in 1 and 2-quart and 2-gallon sizes. The drip can comes in 2-quart size.

(Request Item No. C-9)

Automatic Bundler

The economies of automatic bundling of individual packages for shipment, storage and increased sales are now said to be available to smaller manufacturers and those with a diversified group of short-run products through the use of the new Model 850 Texpaker by Battle Creek Packaging Machines Inc., Battle Creek, Mich.

The Texpaker operates at speeds from 1 to 18 units per minute. With the usual bundle arrangement of 12 to the package, it can take the output of a 180 per minute production line. Wrapping can be accom-



and twisting
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Delicate spinning and twisting operations often call for special ring travelers designed to meet your exact requirements. And, nine times out of ten, National-Sterling Engineers have the prompt answer!

No one knows better what the right travelers can mean to modern spinning and twisting operations than the mill men who have called on National-Sterling Engineers for "right traveler" recommendations. In each case, they've found that smooth-running, precision balanced National-Sterling Ring Travelers consistently deliver more pounds of first class yarn at higher spindle speeds with fewer ends down.

Whether you're running cotton, wools, synthetics or blends, it will pay *you* to let an experienced National-Sterling Engineer "brush the cobwebs away" from your spinning and twisting problems. For prompt service, write, wire or phone National Ring Traveler Company and Sterling Division, 354 Pine Street, Pawtucket, R. I. Southern Office and Warehouse: P. O. Box 293, Gaffney, South Carolina.

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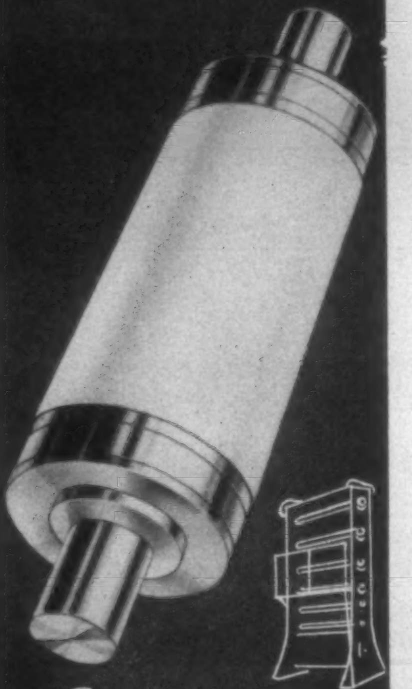
CALENDER
ROLLS



Established 1863

For nearly a century "HOLYOKE" Rolls have been world renowned for sturdy, rugged construction, designed to give dependable, long life.

We are equipped to give service on new and refilled rolls with various types of fillings and densities. Also stainless steel, brass and special purpose rolls.

Our engineers will gladly call to give you the benefit of their long experience making rolls for processing textiles and paper.

Correspondence Invited

HOLYOKE MACHINE
COMPANY
CALENDER ROLLS for the PAPER and
TEXTILE INDUSTRIES
WATER FILTRATION EQUIPMENT
HOLYOKE, MASSACHUSETTS

plished with 4, 6 or 12 smaller packages wrapped into one large bundle, without the need for bottom supports. Also, the Texpaker is said to be capable of handling outsize packages which are larger than can be wrapped on other machines. The machine is set in motion at any time the operator feeds an assembled group of products into it.

As each package is fed into the machine it starts the wrapping cycle which consists of unlocking and cutting off the sheet of paper, forming the folds, heat sealing or gluing the folds and discharging the finished package into a set of conveyor belts. The machine occupies 8 x 6 x 4 feet of space and includes such optional features as an electric eye to register printed designs, a printing attachment to overprint the contents during the paper feeding cycle, and a thermoplastic label applicator to identify the contents of the package.

(Request Item No. C-10)

Whorl Tension

A new tension unit based on a rotating cap with braking action applied by the hysteresis principle has been announced by Allied Control Co., New York City. In tests and field installations this design is said to have shown substantial increases in production on most synthetic and natural yarns. Speed increases of 50% and higher can be expected without sacrificing yarn quality, Allied reports. The speed of the electro magnetic whorl tension is limited only by the operating capacity of associated machinery. Proper tension is maintained independently of speed.

Yarn quality is frequently improved due to reduction in non-rotating contact points and an absolute minimum of tension variation. This reduces filament breakage, loops and strip-back on twisted yarn. Another advantage cited is the ease of changing beam density. This is done with a simple hand control and changes are made without machine shut-down.

A minimum of experience is necessary since no weights or contact points need adjustment to vary the tension on the yarn, therefore supervisors and operators can handle this new unit without previous experience. Minimum maintenance is another advantage of this new tension unit. Under normal operating conditions, cleaning and oiling are required only every 2 to 4 years, it is reported. (Request Item No. C-11)

Traveler Hardness Tester

Custom Scientific Instruments Inc., Kearny, N. J., has added the West Point traveler hardness tester to its line of standard instruments. This unit is a development of West Point Mfg. Co. The method of using this tester is said to be simple. The operator starts with the two jaws in the closed position and sets the dial indicator to "O." Next he places a traveler under the two jaws, and then slowly and steadily turns the handwheel in order to open the jaws.

Custom Scientific Instruments is now offering the West Point traveler hardness tester.

The distance which the jaws move will be registered on the dial and this dial reading will correspond to the traveler opening at the time the traveler breaks. As soon as the traveler breaks, the handwheel is stopped and the dial is read. Since the thickness of the two flanges is about the dimension of the opening on a No. 2 flange traveler, the dial indicator will read the amount of stretch or increase in this traveler opening before break.

If the tester is used on several different flange travelers such as 1, 2 and 3, there will be a slight error due to the variation in the original opening of the traveler horns. This may be compensated for in a number of ways. For most measurements this will be only a minor error, the company reports. After breaking 25 to 50 travelers out of a lot, there is enough information to obtain an average of the opening between the horns at the time the travelers break. This average opening is a direct indication of the average hardness of the traveler.

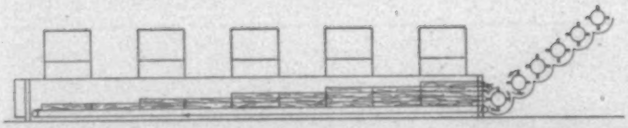
However, mills may not be so much concerned with averages as with the fact that some travelers in a lot may be too soft and may break too low. They may wish to use a little statistical quality control and set up ranges through which this opening may vary without giving trouble in the spinning room. (Request Item No. C-12)

Rust-Preventing Solvent

Frank A. Hoppe Inc., Philadelphia, Pa., has developed a rust-preventing solvent for cleaning industrial machines and metals. The substance is said to have the unique property of protecting as it cleans. The solvent is recommended for such uses as rust removal and prevention, and the clean-

FIBER CONTROLS

BLENDING AND CLEANING SYSTEMS FOR MAXIMUM EFFICIENCY AND ECONOMY



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designed to Prevent False Blends under all conditions. Will blend ANY combination of fibers automatically. Labor Saving—automatic operation removes the "human element." Facilitates constant quality and cost control . . . reduces waste. Maintains an accuracy of blend of plus or minus 1%.

Perfection of design makes this system extremely Economical to operate and maintain.

Top photo—a typical installation of the Synchromatic Blending System.

Drawing at left—shows the process flow. The conveyor is synchronized to receive accurately weighed fibers from each of the feeders forming a continuous, interconnected, overlapping band of sandwiches which is fed into the blender.

We invite your inquiry concerning more complete details of our Blending and Cleaning equipment.

Call or write:

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FIBER CONTROLS modern Blending Feeders and Pre-Opening Cleaners enable you to increase the production while maintaining a high standard of quality.

Write for Spec. sheets.

FC-83 SCREENLESS CONDENSER

This NEW condenser, made for Heavy Duty and High Production, has proven itself in efficiency and capacity production. Will handle up to 2000 lbs. of fiber per hour through ducts approximately 200 ft. in distance. Will discharge fiber without — Tumbling — Rolling or Pilling. Self-Cleaning. Write for spec. sheet.

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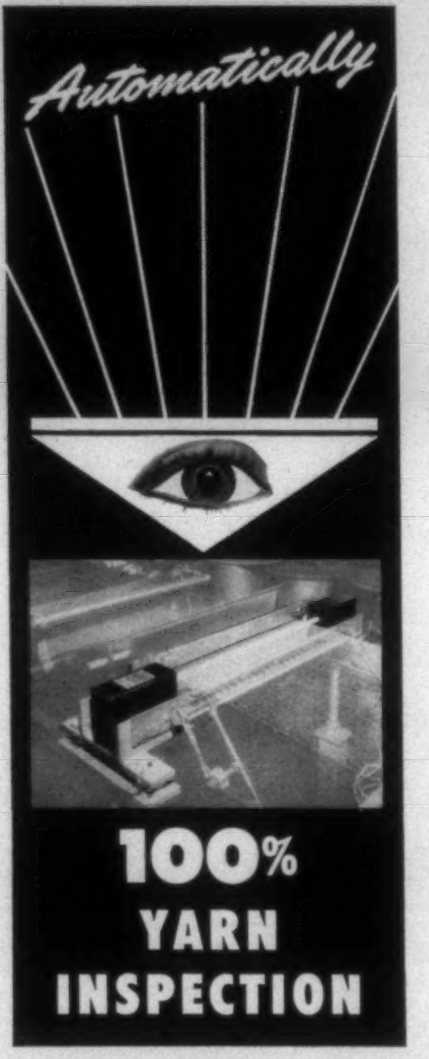

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Take **all** the guesswork out of yarn inspection with the new standard of yarn quality — THE LINDLY COUNT.

The Lindly Automatic Yarn Inspector counts **every** fault... provides a stop motion, set to **your** tolerances. You determine quality, measure it in terms of THE LINDLY COUNT.

Lindly Automatics pay for themselves in a short time, go on adding to your profits for years.

Inquire about the family of Lindly Automatics, built to cut your costs, boost your quality.

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FOR THE TEXTILE INDUSTRY'S USE—

ing of dirt, gum, size, crust, lint and oily deposits from all parts of machinery. Hoppe's Solvent is easily applied by brush and will not injure cotton, wool, silk, rayon, nylon or any other synthetic yarn.

(Request Item No. C-13)

Worm Gear Speed Reducer

A new universal worm gear speed reducer that can be mounted in three different positions has just been introduced by Link-Belt Co., Chicago, Ill. The units are available in 2½, 3, 3½ and 4" centers with up to 13½ h.p. input rating and 7,240 pound inches output torque rating.

These extremely versatile units have three choices of mountings: worm shaft below gear, worm shaft above gear and output shaft vertical. Cost of horsepower has been reduced by using a one-piece cast iron housing with external fins for cooling and an aluminum radial fan which directs air over the fins.

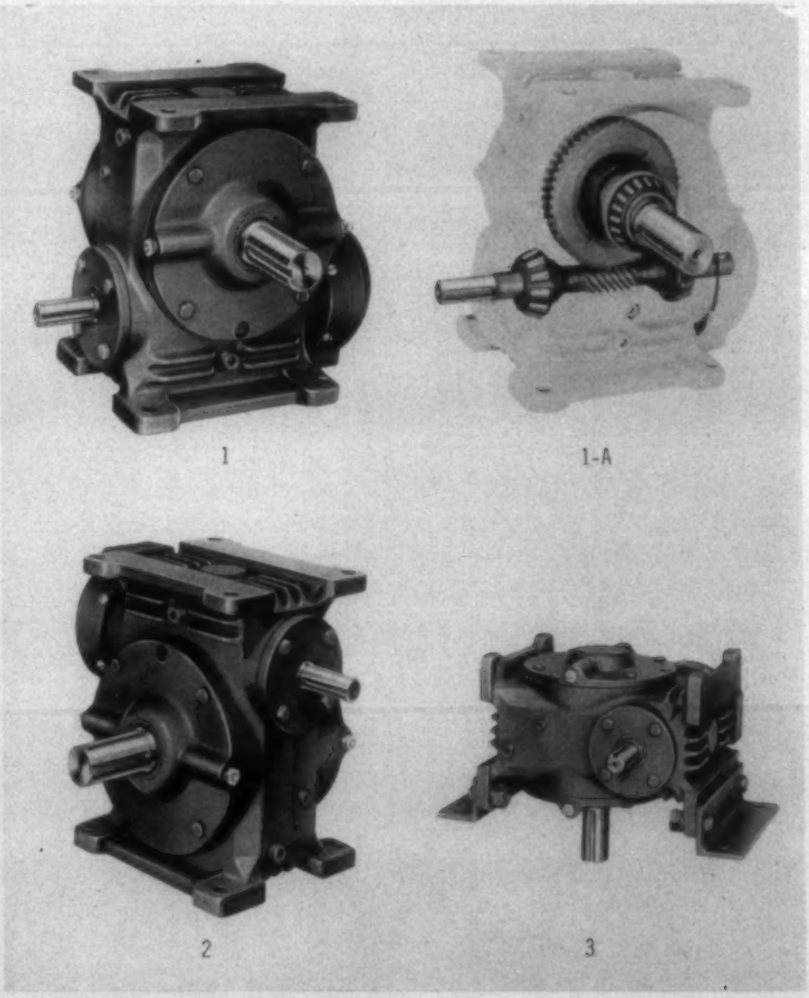
Completely assembled units, in a variety of ratios, are said to be available "off-the-shelf" directly from Link-Belt distributors and factory branch stores throughout the country. Additional information, selection data and service factors are also available in a new Folder 2724, "Universal Worm Gear Speed Reducers."

(Request Item No. C-14)

Anhydride For Epoxy Curing

Beta-S, a new liquid dicarboxylic anhydride is being introduced in development quantities by Heyden Newport Chemical Corp., New York City. The product is said to be particularly useful in curing epoxy resins. Beta-S, dimethyl substituted butenyl tetrahydro phthalic anhydride, has a combination of double bond and anhydride functionally indicating potential as an intermediate for preparing surfactants, lubricant additives, corrosion inhibitors, dyes, fungicides and inks.

As a curing agent, the substance is suitable for systems used in impregnating, potting, casting, laminating, tooling and coatings. Physical testing shows epoxy systems cured with the anhydride to possess high compressive and flexural strengths, low


1
1-A
2
3

A new universal worm gear speed reducer that can be mounted in three different positions has been introduced by Link-Belt Co. The units are available with the worm shaft below gear (1); phantom view of worm shaft below gear (1-A); worm shaft on top of gear (2); and with the output shaft vertical (3).

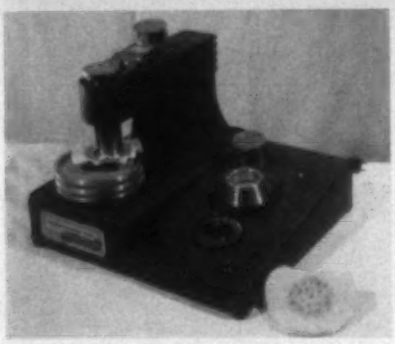
power characteristics and low shrinkage, the company reports. Low exotherm evidenced by the anhydride in casting operations is conducive to plant safety.

The low density offered by Beta-S cured epoxies, 10% lower than comparable systems, is expected to promote material economy in potting and casting.

The chemistry of Beta-S suggests its use as a valuable intermediate. Readily reactive, the product will undergo hydrolysis, esterification, amidation, imide formulation, reduction, aromatization and oxidation.

(Request Item No. C-15)

Pilling Tester



The improved Model K pilling tester gives test results in one-half to two minutes.

Fabric Development Tests, Brooklyn, N. Y., has completed the development of an improved Model K pilling tester.

The new Model K appearance-retention tester operates at contact pressures as low as 5/1000 p.s.i. and uses a special 3KS wear disc. Test results are obtained in just one-half to two minutes. Tests run for different intervals permit determination of the speed and magnitude of pill formation as well as an evaluation of the size and hardness of the pills. The extent and character of pilling is said to be quickly determined by a simple process of rubbing the test sample over a special soiling paper, that simulates preferential pill soiling in wear, and then comparing the soiled sample with visual standards. The harder the pill the more readily it soils.

The Model K machine is suitable for testing the pilling of clear finished fabrics and the surface wear and abrasion of all textiles under similar conditions used with the earlier Model PA appearance-retention tester. For those having the earlier Model PA machine, a Model K conversion unit and the special wear disc are available. Installation of the conversion unit is very simple and gives results comparable to those obtained with the new machine, the company reports. (Request Item No. C-16)

Infra-Red Elements

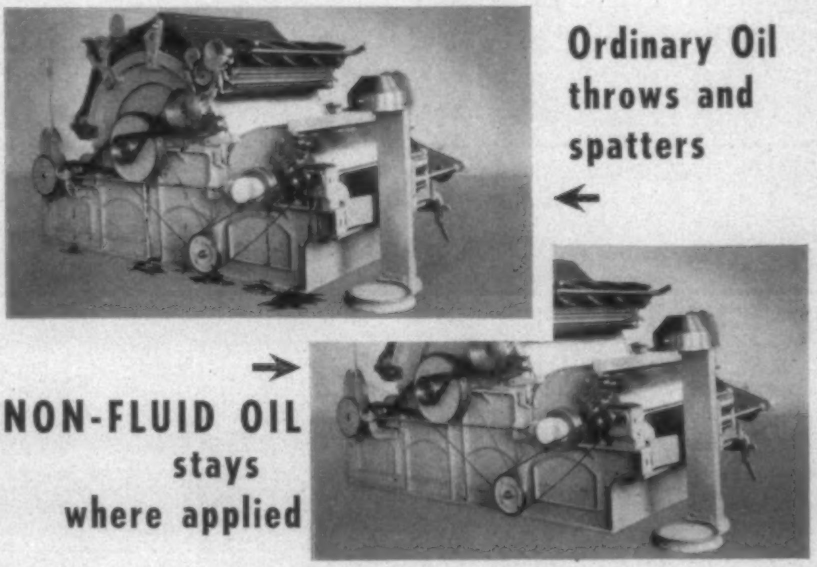
Ampere Industries of Newark, N. J., is marketing a new line of ampere slab face quartz infra-red elements for industrial processing applications. The unusual design is said to create a new high in infra-red emissivity, efficiency and long life. In addition flexibility of application is said to be practically unlimited.

Ampere slab face quartz elements are unidirectional, direct source—no reflectors, long wave length—non-color selective, compact and rugged—no maintenance, and offer unlimited design and application possibility, Ampere reports.

Ampere quartz elements are unidirectional and radiate long wave infra-red rays directly on the work, minimizing dissipation of energy from the sides, a characteristic of parabolic and V reflectors. This results in more uniform emissivity from a larger source surface, with a corresponding reduction in watt density of source and lower surface temperatures. The units are said to require no maintenance and have very long life. These new elements are designed as unit building blocks for the construction of radiant surfaces to be used over conveyor belts or as the ceiling, floor and sidewalls of batch or continuous ovens. Elements may be mounted on or removed from oven assembly individually from outside the oven. Each element has quick-connecting terminals for ease in wiring. Any conceivable oven is said to be possible using Ampere standard modules. In addition Ampere quartz elements may be placed in any position — horizontally or vertically with no loss in efficiency. The quartz elements are made in standard sizes which may be used individually or grouped for spot heating purposes.

The chemical inertness of Amp-quartz permits application in a wide variety of fields. It is also self-cleaning, due to low

TRADE MARK NON-FLUID OIL REGISTERED IN UNITED STATES PATENT OFFICE


Ordinary Oil throws and spatters
NON-FLUID OIL stays where applied

When bearing wear throws Doffer and Top Flats out of alignment, uneven sliver results. Ordinary oil and thin grease cannot prevent bearing wear because they do not stay in bearings, but drip and spatter out.

NON-FLUID OIL adheres to bearing surfaces—lubricates and protects them *until it is completely consumed.*

In comb boxes, NON-FLUID OIL prevents heating and minimizes wear.

It outlasts even the best grade of ordinary oil 4 to 6 times. In addition, NON-FLUID OIL is dripless; it will not throw or spatter on card clothing and cotton—which means less waste, as well as savings in application time and lubricant.

Seven out of ten mills now use NON-FLUID OIL in their card rooms. Write for Bulletin T-5 and free testing sample.

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coefficient of expansion, minimizing maintenance. Voltage, current, frequency, phase, watt-density and temperature limitations are so high that great flexibility of oven design is permitted, enabling the engineer to conform to existing conditions in making specifications.

(Request Item No. C-17)

Direct-Reading Counter

Veeder-Root Inc., Hartford, Conn., has introduced a new direct-reading, high-speed mechanical counter that is said to be capable of operating continuously at 6,000 r.p.m. It features a directly-geared second wheel which reduces the wear usually resulting from conventional transfer-pinion methods. It also features a means of providing an instantaneously corrected direct-reading in the event that the second wheel is not fully within the window.

The counter has been tested and found to be highly resistant to corrosion, humidity, vibration, and to have substantial life and low torque, the company reports. It features .250" high white figures on black background. The case is approximately 2¾" long, 2" high, and 1½" deep.

(Request Item No. C-18)

Anionic Surfactant

A new anionic surface active agent with reportedly exceptional re-wetting properties has been developed by the Onyx Oil & Chemical Co., Jersey City, N. J. Philip E. MacLean, sales manager, said that "the efficiency of this material makes it one of the most economical agents available for all wetting and re-wetting operations in the textile mill."

Among the special applications suggested for Anionyx RW are proprietary treatment for rapid re-wetting in sanforizing, adding absorbency in towelling and felt, and as an auxiliary in continuous peroxide ranges. A pale, light syrupy liquid, Anionyx RW is compatible with a variety of non-ionic and anionic finishes, such as thermoplastic resin emulsions, alkaline soluble finishes, thermosetting resins, anionic and non-ionic softeners. Generally, Anionyx RW is incompatible with cationic materials. One exception, however, is its compatibility with Xyno Resin X-99, Onyx's cationic resin emulsion. A preliminary technical bulletin and samples are available. (Request Item No. C-19)

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LOCATION...In the heart of quiet Murray Hill section...a few streets from Grand Central and Penn R.R. Stations and Airline Terminals...adjacent to all business districts.

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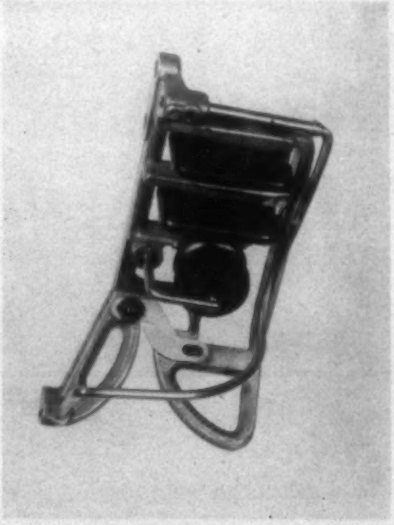
Roto-Coner Wear Plate



Mounted with the same screws that held the original tungsten carbide insert guide is the new, all-ceramic wear plate for Universal Winding Co.'s No. 44 Roto-Coner. The wear plate is the "S" shaped piece of lighter colored material.

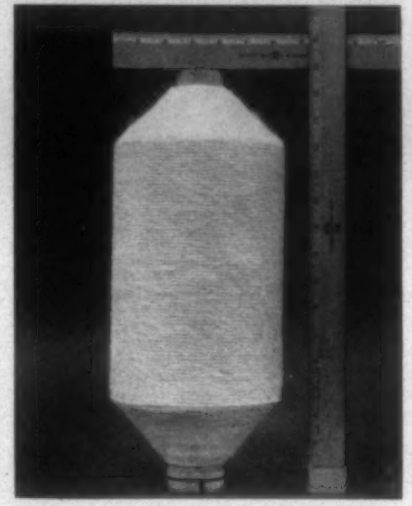
A new, all ceramic wear plate for Universal Winding Co.'s No. 44 Roto-Coner was announced recently by American Lava Corp., Chattanooga, Tenn. Use of the new guide results in less guide wear and thus reduces yarn breakage and machine downtime, it was pointed out. Produced as a single unit in Alsimag 513 material, the new part replaces a tungsten carbide insert installed on the original equipment. The plate carries Alsimag No. GS-28078, and it is mounted with the same screws used for the original plate.

Used for spun yarns of both natural and synthetic fibers, the part has a hardness of 9 on the Mohs' scale and is normally furnished with satin polish A. The material used for the part is a homogeneous ceramic material having many times the wear resistance of steel and wear resistance equal to tungsten carbide. The new guide is said to provide improved tension control due to its low coefficient of friction which remains stable due to the hardness of the part.

The wear plate has been mill tested for more than two years, running continuously these 24 months on a three-shift basis without replacement. During the test period, many abrasive yarns, including mohair, rabbit hair, alpaca, acetate, nylon and Dacron, have been run over the guides without causing wear, the company reports.

(Request Item No. C-20)

Economy Size Roving Packages



Whitin's new economy-size roving package measures 14x6½ inches.

Whitin Machine Works has announced its new economy-size roving packages. Measuring 14 x 6½", the large package is said to result in savings from 30 to 200% in spinning creeling costs. The new large packages are used on the improved Whitin Hi-Pro roving frame which features Unitrol top arm weighting using precalibrated springs, new clearers, quick skip gears, chain drive to twist gears, helical head end gearing, helical bonnet and spindle and anti-friction bearings at all important points.

Present Whitin 12 x 6½" Long Draft roving frames may be modified to take advantage of these additional savings. They can be modified to utilize any or all of the new improvements standard on the Whitin 14 x 6½". The new frame runs at the same standard speeds as the 12 x 6½"; savings are effected in spinning creeling costs with the new 85-90 ounce bobbins. Other advantages of the larger packages are lower doffing costs and higher efficiency.

(Request Item No. C-21)

Rug Yarn Card

A new card designed for coarse denier synthetic carpet yarns has been built by The William Tatham Ltd., according to the company's sole U. S. distributor, Louis P. Batson Co., Greenville, S. C. It was developed to meet the demand by carpet yarn manufacturers for a card which would produce high poundage, permit blending of mixed deniers, not remove waste unduly, and not shorten the fibers.

The card is available in various widths from 41" to 72" with 41" and 46" widths being the most common. The 46" card is capable of producing excellent quality sliver at about 70-80 lbs. per hr., the company reports. The card is 4½' high and has a 25" cylinder and doffer, 3 pairs of rollers and clearers and a fancy roller. It takes 2-22" diameter laps fed by metallic wire covered feed rollers. The cylinder, rollers and clearers are covered with a non-strip flexible clothing. The doffer is covered with short cut metallic wire.

A new type doffer stripping mechanism has been adopted which permits high doffer speed. It incorporates two ball bearings mounted on chrome plated rollers. The new system is said to be effective in insuring the complete removal of the material from the doffer. Loss of fiber in front of the doffer is greatly reduced. The doffer is divided in the middle by a leather ring permitting final delivery to 2—16" coiler heads. The cans, which are 42" in diameter, have a capacity of more than 20 lbs. of stock.

The standard drive to the machine is from a floor mounted individual motor by V-belt to a small counter shaft. The drive is transmitted by chain to the cylinder. Two control buttons, one at the feed and the other at the delivery end, are provided.

Facilities have been provided for accurate setting of all working components. Rollers and other parts are constructed in light alloys. Long sleeve bearings are applied to rollers and clearers completely shrouding the ends. All fast moving parts are fitted with either roller or ball bearings. Cut gearing is used throughout the card.
(Request Item No. C-22)

Box Tying Machine

A machine designed to tie individual stacked or telescoped boxes into bundles is being marketed by the B. H. Bunn Co., Chicago, Ill., manufacturer of a wide variety of package tying machines. This machine is designed to reduce bundling costs while speeding up packing and shipping operations. It has a wide table to provide maximum area, and up to 34" height for stacked boxes. The unit makes a double wrap one way around the stack and ties a non-slip double-loop knot. To operate the machine, the operator places the bundle to be tied on the table, and steps on a foot trip. A revolving arm carrying twine quickly encircles the bundle twice, the knotter knots the twine and the twine is cut close to the knot. Total time for the operation is 2-3 seconds. (Request Item No. C-23)

Washfast Bonded Royal

Bonded Royal, a brilliant washfast blue shade which duplicates shades previously available only in the vat color process of dyeing, has been developed by Franklin Process Co., division of Indian Head Mills. Bonded Royal is said to make it possible to include a brilliant shade of royal in the color range at a cost below that of a similar vat color. In most cases, according to Franklin Process, Bonded Royal can be shaded to match samples.

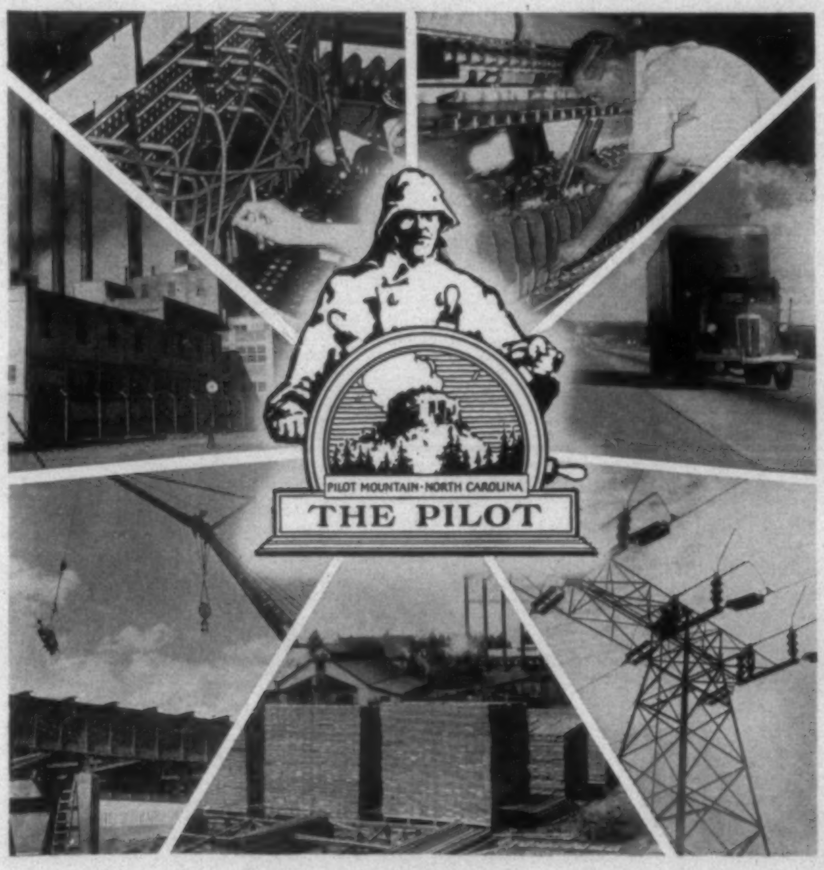
While it is not fast to bleaching, Bonded Royal is wash fast (140° F.) and light fast (80 hours). Franklin Process suggests use of Bonded Royal for fabrics that are not subject to bleaching. Samples are available on request. (Request Item No. C-24)

Enclosed Electric Motors

The Lima Electric Motor Co., a subsidiary of Consolidated Diesel Electric Corp. of Lima, Ohio, has announced a line of new rerated N.E.M.A. Type E, totally enclosed, fan-cooled electric motors. Type E moters are for use in non-explosive atmospheres containing excessive moisture or abnormal quantities of dirt, metallic dust or other abrasives. They can be furnished for standard horizontal, wall or ceiling mount. All standard commercial frequencies and voltages below 600 v. are available.

Typical Lima construction is incorporated in the new rerated Type E motors: rigid, seasoned cast iron frames with integrally cast feet. Deep integrally cast cooling fins are designed to provide adequate heat dissipating surfaces. Roomy, cast iron connection boxes can be rotated to make connecting easier.

Solid die cast aluminum rotors have dual fans, and the entire rotor assembly is dynamically balanced. Double width sealed ball bearings require no greasing or cleaning: lubricant is sealed in—dirt and moisture are sealed out. Stators, impregnated with moisture-resisting, thermosetting varnish, are tested in accordance with N.E.



The Pilot works with management —
building business by protecting workers!

From the telephone switchboard to the textile mill the protective arms of The Pilot cover all phases of Southern industry. Individually tailored group insurance programs stimulate profits and production by improving employee relations reducing labor turnover, and attracting competent help.

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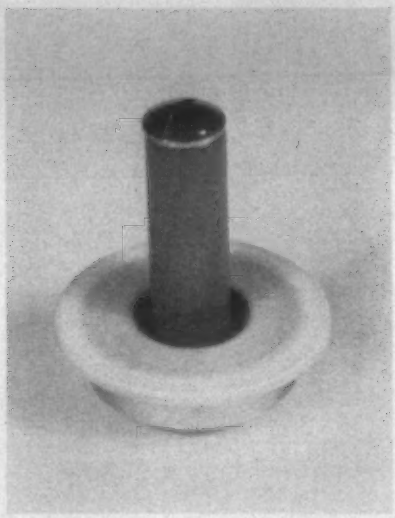
M.A. specifications. A uniform air-gap between rotor and stator is maintained to assure quiet, efficient operation. High velocity air from the dome-protected external fan, over the cooling fins actually blows the motor clean. Lima Type E motors are available from 1 h.p., 900 r.p.m. (Frame 213) through 40 h.p., 3600 r.p.m. (Frame 326 U). (Request Item No. C-25)

Bottom Disc For Tension Device



Fabrionics Corp.'s improved bottom disc for the Una-Mag yarn tension device.

Fabrionics Corp. of Huntington, N. Y., announces the development of an improved bottom disc for its Una-Mag yarn tension device. The new Fabrionics 113 wear resistant ceramic aluminum oxide bottom disc is now available with the Una-Mag device or may be ordered separately for replacement.

The Fabrionics Una-Mag tension control is a device which permits increasing yarn tension from one centrally located position simultaneously for any number of yarn ends. (Request Item No. C-26)

Anionic Surfactant

Development of an anionic surfactant with unusual solubility and stability properties for use in industrial applications is announced by The Dow Chemical Co., Midland, Mich. The new product, Dowfax 2A1, is a sulphonated alkyldiphenyl oxide which was developed following four years of research and field application.

The product may be used to advantage in cleaning compounds, for textile and hard surface cleaning operations, in maintenance supplies and for other miscellaneous uses to promote chemical reactions.

The diphenyl oxide grouping is said to be unique in that it results in a very stable material. It is very soluble in water, and at room temperature, 50% solutions can be prepared.

Dowfax 2A1 may be used as a surfactant in kier boiling of cotton, as a wetting agent and solubilizing agent in mercerization of cotton, in the carbonization of wool and for pasting and dispersing difficult soluble dyes.

It is now available in commercial quantities for the first time as a light-colored, free-flowing powder and as a concentrated soution. A bulletin, "Dowfax 2A1," is available from Technical Service and Development, The Dow Chemical Co., Midland, Mich. (Request Item No. C-27)

Semi-Pneumatic Fork Truck

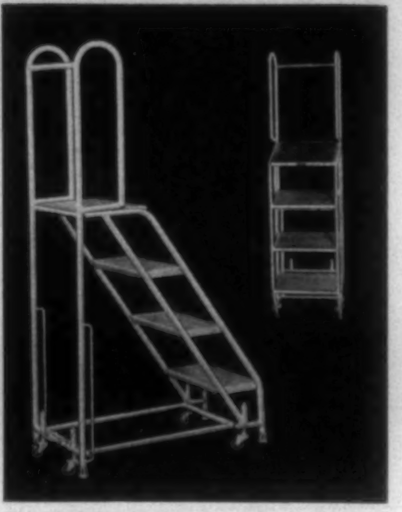
A 2,000-lb. capacity fork truck with pneumatic drive tires and cushion steer tires, designed for use in textile plants where fork trucks must work both indoors and outdoors, has been introduced by the industrial truck division of Clark Equipment Co. The unit is called the C-20-B Special. The combination of pneumatic drive tires and cushion steer tires provides both traction, needed for operation on rough surfaces or ramps, and easy steering on smooth flat floors. With a turning radius of 64", the truck is said to be easily maneuverable through trailer and boxcar doors.

Directional controls and lift-lower controls are mounted on the steering column within fingertip reach of the operator. Engine accessibility is provided by swing-out panels which expose engine for routine service. For operations where lint is in the atmosphere, a lint screen slips into place over the radiator. The C-20-B Special is powered by a Continental gas engine of 112-cubic-inch displacement, which is coupled with a Clark power shift transmission and torque converter. Hydraulic brakes are self-adjusting. Top forward and reverse speed of the truck is eight m.p.h. Either empty or with full load it will climb a 25% grade. The unit has a wheelbase of 44¼", over-all width 33¾" and over-all length of 74¾". (Request Item No. C-28)

Step Ladder

The latest addition to the Ballymore Safety-Step ladder line is a new folding aluminum ladder, supplied in a wide range of models. These folding ladders offer the user maximum benefits in convenience, compactness, usability and safety. They are stored compactly, out of the way, when not in use. Handrails are available on 3, 4 and 5-step models. Also available are 2, 3 and 4-step models without handrails.

A folding mechanism locks these lightweight ladders securely at base to make them rigid and stable when in use. A quick lifting motion folds ladders to a compact 10" to occupy minimum storage space. These ladders will not rust or tarnish, Ballymore reports. Extruded aluminum steps, said to be an exclusive Ballymore feature, provide a sure grip, are strong and easily cleaned. The unit also features functional pyramid design, smooth-rolling, ball-bearing casters which automatically retract when ladder is stepped on, and rubber-tipped legs which insure safe, four-cornered support. (Request Item No. C-29)

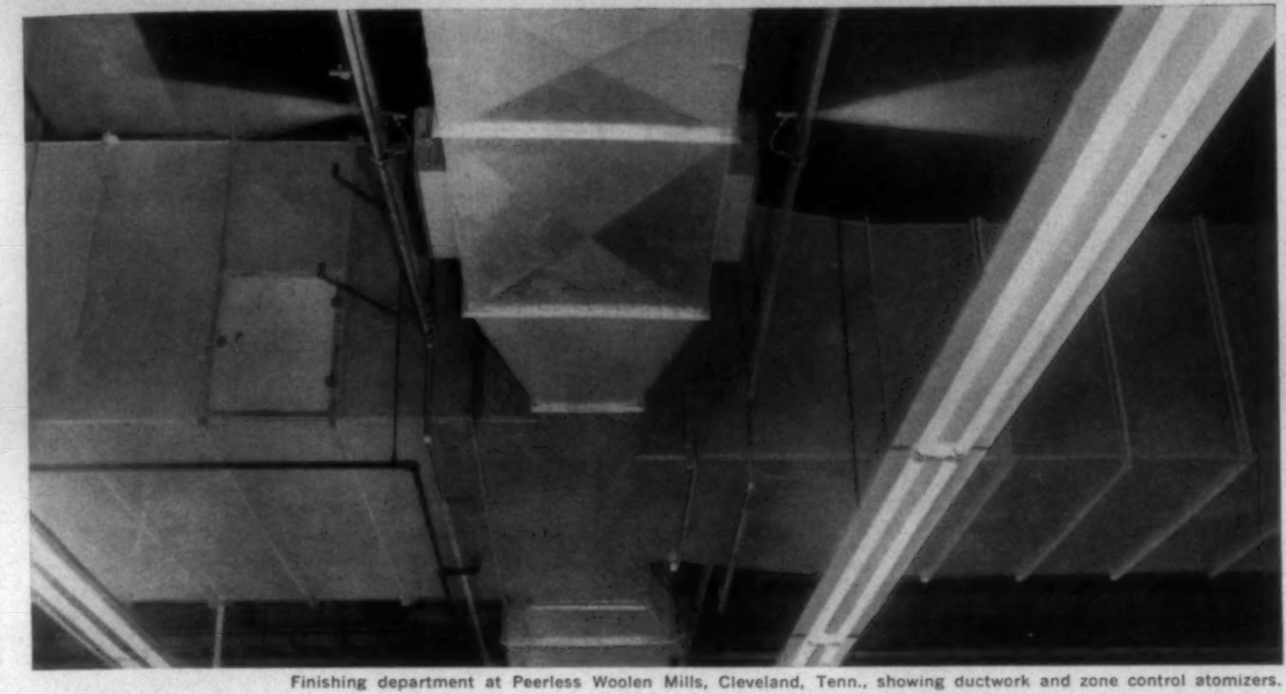


The Ballymore Co. has added this new folding aluminum ladder to its Safety-Step ladder line.

High Pressure Air Tank Units

A new series of high pressure tank units for heavy duty, high volume air delivery has been announced by the Campbell-Hausfeld Co., Harrison, Ohio. The models are designed and constructed for rugged, everyday use by plant production or maintenance departments. The heavy duty equipment features a twin cylinder air compressor, with 2¼" bore x 2" stroke, driven either by a 1 h.p. electric or 3 h.p. gasoline motor. The compressor has a displacement of 8.0 c.f.m. and provides 4.02 c.f.m. air delivery at 100 p.s.i.

It is constructed for up to 100 lbs. continuous pressure, or 150 lbs. intermittent. The compressor is mounted on a 20-gallon welded steel, pressure tested tank, available either stationary or mobile with 10" rubber tired wheels. An automatic pressure switch starts/stops the electric motor at 80/100 p.s.i., while the gasoline engine models are equipped with a constant speed unloader. A complete selection of accessories is available for the new high-pressure tank units, including high volume paint spray guns. For complete details, request Bulletin HP-100. (Request Item No. C-30)



Finishing department at Peerless Woolen Mills, Cleveland, Tenn., showing ductwork and zone control atomizers.

PEERLESS WOOLEN MILLS

chose Amco Air Conditioning at its Cleveland Tenn. Plant to be

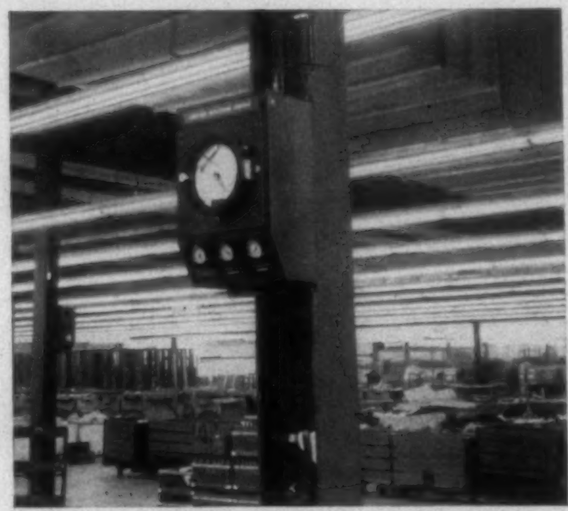
INDEPENDENT OF OUTSIDE WEATHER

An Amco dual (split) system has given Peerless Woolen Mills exactly what was wanted... tailor-made *inside air* regardless of *outside weather!*

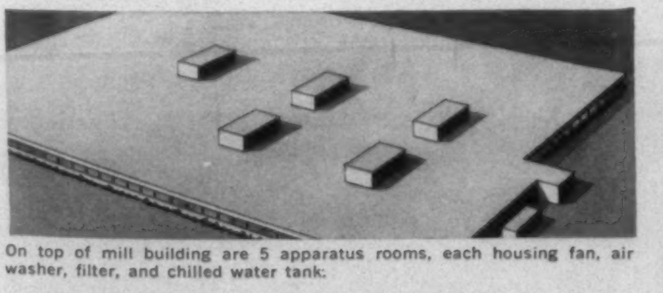
Amco Central Station Air Conditioning, augmented by room atomizers, permits each of the different manufacturing areas in this 10-acre building to be controlled separately.

Peerless spared nothing to assure this *profitable precision control* of temperature and humidity. Over 1000 tons of refrigeration capacity and 3 miles of ductwork were provided. Five of industry's largest commercial fans were installed.

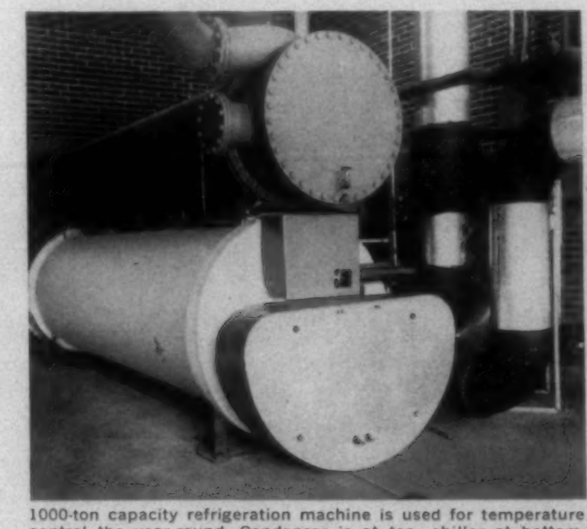
If you have a textile mill-conditioning problem, ask an Amco engineer to call. There's no obligation.



Amco Aspirating Cabinet controls condition of air in weave room. Air temperature and humidity register on recorder chart.



On top of mill building are 5 apparatus rooms, each housing fan, air washer, filter, and chilled water tank.



1000-ton capacity refrigeration machine is used for temperature control the year-round. Condenser is at top; chiller at bottom.

AMERICAN MOISTENING COMPANY

Makers of Air Conditioning Systems and
Textile Mill Equipment Since 1888

Home office and plant: Cleveland, N.C. Branches in Atlanta, Providence, Toronto.

For the Mill Bookshelf

Frame And Room Cleaner

Parks-Cramer Co. has published a 4-page, 2-color folder describing its CTG frame and room cleaner. The unit is said to offer more power, less weight and better cleaning. The frame cleaner features independent separately controlled air streams for each basic area—creel, drafting and side and underframe. The sleeves are custom tailored, smooth, snag-proof and flexible. The cleaner also has adjustable dampers for limiting air velocity to creel and drafting areas. The unit has a 3 h.p. motor operating on either 110 or 220 volts. Total weight is 184 lbs. Automatic dampers instantly reduce air from sleeves when over idle frames, without let-up in ceiling cleaning.

(Request Item No. C-31)

Worm Gear Speed Reducers

Folder 2724, "Universal Worm Gear Speed Reducers," is a new 8-page publication by the Link-Belt Co., Chicago, Ill. It contains complete data on a new type of reducer that is designed to operate in three different positions, has a higher capacity with external fins for cooling and is available directly from stock throughout the country.

The folder illustrates the various mounting positions that solve problems of space and also contains selection procedures for proper applications. Five tables give service factors, load classes, input horsepower ratings, overhung load ratings and thrust load ratings. Dimensions and weights for all three types of mountings—worm shaft below gear, worm shaft on top of gear and output shaft vertical—are also graphically described. (eRquest I.em No. C-32)

Temperature Controls

A new 8-page booklet has been issued by Fenwal Inc., Ashland, Mass., to describe Thermoswitch controls and mounting wells. The booklet contains a description of how Thermoswitch units operate on the differential expansion of metals, complete operating specifications and dimensions, and available modifications and special features. The brochure is designated MC-177.

(Request Item No. C-33)

Variable Speed Pulleys

Bulletin No. 4101, published by T. W. Wood's Sons Co., Chambersburg, Pa., describes a line of variable-speed pulleys designed to eliminate freezing and sticking. The 12-page, 2-color, letterhead-size bulletin gives technical data for five MS sheaves designed for ratings of 2, 3, 5, 10 and 15 h.p. The new MS pulleys have no keys to obstruct the flow of oil around the surfaces between the flange hub and sleeve. Power is transmitted from the stationary flange through a removable sleeve cap, which is keyed to the moving flange by torsionally resilient rubber keys. A continuous rotational pumping action assures a uniform, constantly renewed film of oil on the bearing surfaces. The bulletin also pictures the construction of the pulleys.

(Request Item No. C-34)

Electric Motor Data

A new a.c. motor selector booklet, Bulletin B-2103-4, published by Reliance Electric & Engineering Co., Cleveland, Ohio, gives concise selection data to users of a.c. motors from one through 200 h.p. Included in the 12-page booklet are brief explanations of N.E.M.A. design classes, speed-frequency relationship, current and torque values, as well as frame selection tables and complete dimension information for standard frames and mechanical modifications for all frame sizes from 182 through 6085. Additional photos illustrate special-purpose motors made by Reliance for use in unusual temperatures or atmospheres. (Request Item No. C-35)

Air-Power Units

Streamlined, all-purpose Tankmobile air-power units, featuring rugged Pressure Princess utility air compressors, are described in a new, fully-illustrated bulletin published by the Campbell-Hausfeld Co., Harrison, Ohio. The bulletin, designated PP 300, is divided into four sections. The first of these illustrates pictorially how Tankmobile saves time and effort for painters. The second section is devoted to the heavy duty Pressure Princess single-cylinder compressor, the compact component that is responsible for the Tankmobile's claimed efficiency and smooth, trouble-free performance.

The unusual maneuverability of the Tankmobile with its new low-slung design is featured in the third section, while compressor construction specifications, model information and performance data are included in the final portion of the bulletin. Tankmobile models detailed are the ½-h.p. 10 gal. tank, ¾-h.p. 20 gal. tank, and 2-h.p. gasoline engine, 10 gal. tank, as well as three Pressure Princess units.

(Request Item No. C-36)

Dyeing Data

Current dyeing theories and techniques used in successful dyeing of textiles are explained simply in a handy booklet published by Allied Chemical's National Aniline Division, New York City. The information is divided into four parts: a general description of textile fibers; classification of dyestuffs; explanation of the dyeing process; and the dyeing of various fibers with specific classes of dyestuffs. The article is intended for use by secondary schools, textile colleges and technical institutions and for those engaged in wet processing of textiles.

(Request Item No. C-37)

Bleaching Agent

A descriptive booklet on Textone, a sodium chlorite product for bleaching, oxidizing and stripping textiles, has been published by Olin Mathieson Chemical Corp., New York City. The 26-page, illustrated booklet is said to provide textile manufacturers with a ready source of information concerning a chemical whose use is rapidly expanding in the textile field. The booklet includes sections dealing with the use of the chemical in acid bleaching, alkaline bleaching, oxidation of vat dyes and stripping dyestuffs. The new booklet will be distributed through Olin Mathieson district sales offices.

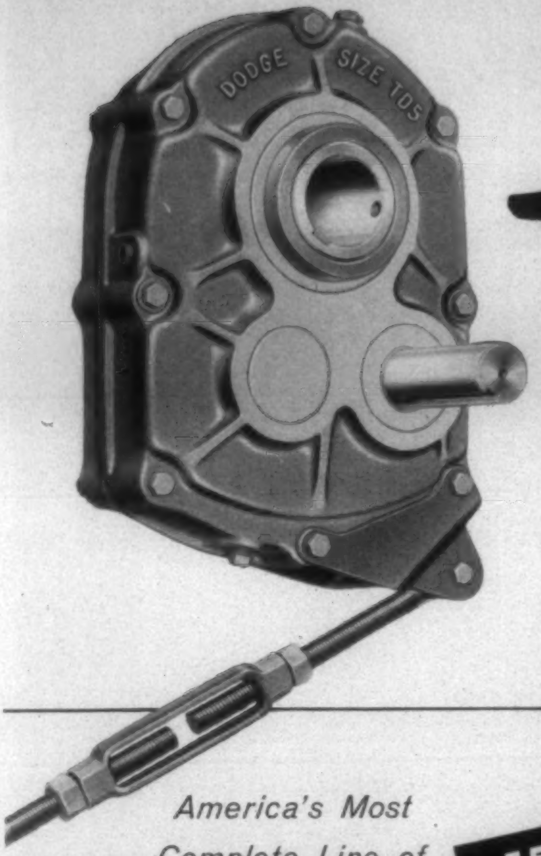
Instrument Society Report

The Instrument Society of America has announced the availability of its annual report. The report acts as a reference for such information about the society as its ability to supply proceedings and reprints on 302 presentations. The presentations were made at society-sponsored meetings last year. The reports are available from the Instrument Society of America, 313 Sixth Ave., Pittsburgh 22, Pa.

Man-Made Textile Encyclopedia

Textile Book Publishers, 250 Fifth Ave., New York 1, N. Y., has announced the forthcoming publication of the *Man-Made Textile Encyclopedia*, a 1,200-page illustrated volume designed as the first fully definitive account of the workings of the entire man-made fiber and textile industry.

Jack J. Press, chief of the Textile Branch, U. S. Navy Clothing & Textile Research Laboratory, is editor-in-chief of the encyclopedia, and is assisted by an editorial advisory board headed by Dr. Herman Mark, of the Institute of Polymer Research at Polytechnic Institute of Brooklyn. The encyclopedia will serve every interest in the textile industry from chemical raw materials to the manufacture and processing of fibers and yarns; from weaving and knitting to the design, manufacture, renovation, and marketing of apparel and other end-use products—consumer, military and industrial. It will contain 22 chapters with over 150 articles contributed by experts in each area treated, and will be in a large 8½" x 11" format. It is scheduled for publication in September. Pre-publication price is $15, if ordered before September.



Torque-Arm

THE DODGE DEVELOPMENT THAT CHANGED THE NATION'S HABITS OF SPEED REDUCTION

America's Most Complete Line of Shaft Mounted Speed Reducers

55 MODELS

- 1 to 200 hp. at 100 rpm!
- Output speeds from 10 to 378 rpm!
- Single Reduction
- Double Reduction
- 5 to 1 Ratio
- 15 to 1 Ratio
- 25 to 1 Ratio
- Any speed ratio up to 150 to 1 obtainable by selection of predetermined combination of reducer and V-belt drive.

CALL THE TRANSMISSIONEER—your local Dodge Distributor. Factory trained by Dodge, he can give you valuable help on new, cost-saving methods. Look in the *white* pages of your telephone directory for "Dodge Transmissioneer."

In fewer than ten years, the range of Torque-Arm Shaft Mounted Speed Reducers has increased from 6 to 55 models, to meet the ever increasing demand for this improved method of speed reduction.

By eliminating foundation, sliding base and flexible coupling this modern speed reducer has saved untold installation time and untold dollars of cost.

The rugged semisteel housing developed by Dodge has never been improved upon. It is corrosion resistant—and it has the strength to hold bearing seats in line for the life of the unit.

Dodge design provides wide spacing for the bearings. Loads are carried easily, contributing to Torque-Arm's long life and very high efficiency. The gears are finest quality—helical, heat treated steel.

Torque-Arm mounts vertically or horizontally in any position around the driven shaft. It locks to the shaft on *both* sides of the housing. The holes in the output hub provide simple removal with puller. Overload release and built-in backstop are optional.

Dodge Torque-Arm is America's most widely used shaft mounted speed reducer. It is stocked by your local Dodge Distributor. Ask him. Or write us for bulletin.

DODGE MANUFACTURING CORPORATION, 6700 Union, Mishawaka, Ind.

DODGE
of Mishawaka, Ind.

Serving The Textile Industry

Foster Machine Reports Record Sales Volume

Last year's operations were "very satisfactory" and the dollar volume of sales was the largest in the history of Foster Machine Co., according to W. C. Chisholm, president and treasurer. Mr. Chisholm's report was rendered at the annual meeting of stockholders, held in the company's offices at Westfield, Mass., on February 18. Sense of the meeting was that Foster's profitable operations as a builder of special textile winding machinery indicate a fundamental soundness in the industry.

Mr. Chisholm was re-elected treasurer and E. F. Bridgman was elected clerk of the corporation. New members of the board of directors are: Mr. Bridgman, J. W. M. Lozier and G. H. Gilpatrick. An employee of the company since 1946, Mr. Gilpatrick has been the Foster's works manager since 1952. Mr. Lozier, who had been appointed a member of the board in November 1958, was elected by the stockholders for the first time at the annual meeting.

The Draper Corp. Reports Dwindling Profits In 1958

The Draper Corp., Hopedale, Mass., reports dwindling profits for 1958 as compared with 1957. Reflecting the depressed conditions in the textile industry, the company's net profit for the year was $742,706 or 67 cents a share against $1,014,985 or 91 cents a share in the previous year. Net operating income for the year totalled $3,427,728 against $3,140,413 in 1957. The firm's annual report stated that in the early part of the year textile mill earnings and apparent future prospects were so discouraging that many new machinery programs were held up. The mid-year improvement, however, brought Draper sufficient orders for new looms to provide profitable operating schedules for the fourth quarter of the year. During the year the company installed 100 shuttleless looms and received orders for 400 more.

Universal Winding Co. Shows Increased Profit

Net sales of the Universal Winding Co. for the six months ended December 31, 1958, amounted to $7,004,926, compared with $7,557,565 for the corresponding period of 1957, Robert Leeson, president, reported recently in a letter to stockholders covering operations of the company for the first six months of its fiscal year. After providing $328,640 for taxes, the net profit amounted to $313,943, compared with $93,955 in the six months ended 1957. This is equal to 94 cents per share on the 316,559 common shares outstanding, compared with 25 cents per share a year ago.

Leeson attributed the improvement in the earnings to the realization of substantial economies, increased manufacturing activity, and to a more favorable sales mix. He reported that incoming business showed a marked upturn in September and the company's backlog of orders is presently four times as great as the backlog a year ago. The existing backlog indicates "a considerable improvement for income for the calendar year 1959," Leeson stated.

"We anticipate a substantial increase in shipments during the ensuing 12 months," Leeson said, "due in a large measure to the increased production of the Unifil loom winder." Production of this machine will increase to 2,000 units per month by August 1959. Sales of electrical coil winders have increased approximately 25%. Contract manufacturing was off somewhat, but prospects for the coming months show good signs of improvement, Leeson said. Although other textile machinery sales in general have shown little upturn, the reception of new high speed stretch yarn spindles, with a speed of 142,000 r.p.m., has been good. Stretch yarn was in short supply during the last six months of 1958 and, although recently the market demand has slackened considerably, a substantial increase in demand is the forecast for the coming years.

Ed Rudnick Visiting Japanese Manufacturers

Ed Rudnick, of Edward S. Rudnick Representatives, departed for Japan on March 13. Rudnick will spend three weeks visiting and meeting with the various Japanese manufacturers exclusively represented by his concern in North America. These include mainly Mitsui & Co. (formerly Daiichi Bussan Kaisha) Industrial Machinery Section, O-M Spinning Machine Mfg. Co., Nippon Spindle Mfg. Co., Izumi Bobbin Co., Godo Shuttle Co., Gifu Keiki Co. (manufacturers of the G. K. Automatic Picker Lap Scales), Toshin Kogyo Co. (manufacturers of the Ichinose Automatic Screen Printing Machines), and Nippon Card Clothing Co.

Rudnick announces recent additional sales of OM-S sliver-to-yarn spinning frames (not previously announced) to Gray Mills Inc. of Gastonia, N. C.; Joanna Cotton Mills Co. of Joanna, S. C.; and another re-order from Bear Brand Hosiery Co. of Kankakee, Ill. The latter spinning mill will have a total of 7,520 spindles of OM-S equipment in operation by next Summer spinning from 20s through 70s, carded and combed yarns.

Recent G. K. Automatic Picker Lap Scales have been ordered by Star Woolen Co. of Cohoes, N. Y.; Lily Mills of Shelby, N. C.; Belmont Cotton Mills of Shelby, N. C.; and a second order from Carlton Yarn Mills of Cherryville, N. C. On his return trip from Japan, Rudnick plans to spend two weeks in Mexico meeting with clients and attending the Japan Floating Fair which will be in Acapulco during the week of April 6th. This Japanese industrial exposition is currently completing a tour of Latin American countries and includes an OM-S super high draft spinning frame in actual operation.

The Warner & Swasey Co. Reports Lower Income

Warner & Swasey's machine tool orders are now running at about double the rate of a year ago, Walter K. Bailey, president of the company, announced in the company's annual report to shareholders, issued recently. "The present rate of incoming orders and production," the report states, "indicate 50% higher shipments of machine tools in 1959."

The company's net income for 1958 was $1,151,536 on a product income of $39,271,528, as compared to $4,356,409 on a product income of $56,354,408 in 1957. Earnings for 1958 were equivalent to $1.16 per share of common stock outstanding, as compared to $4.38 for 1957.

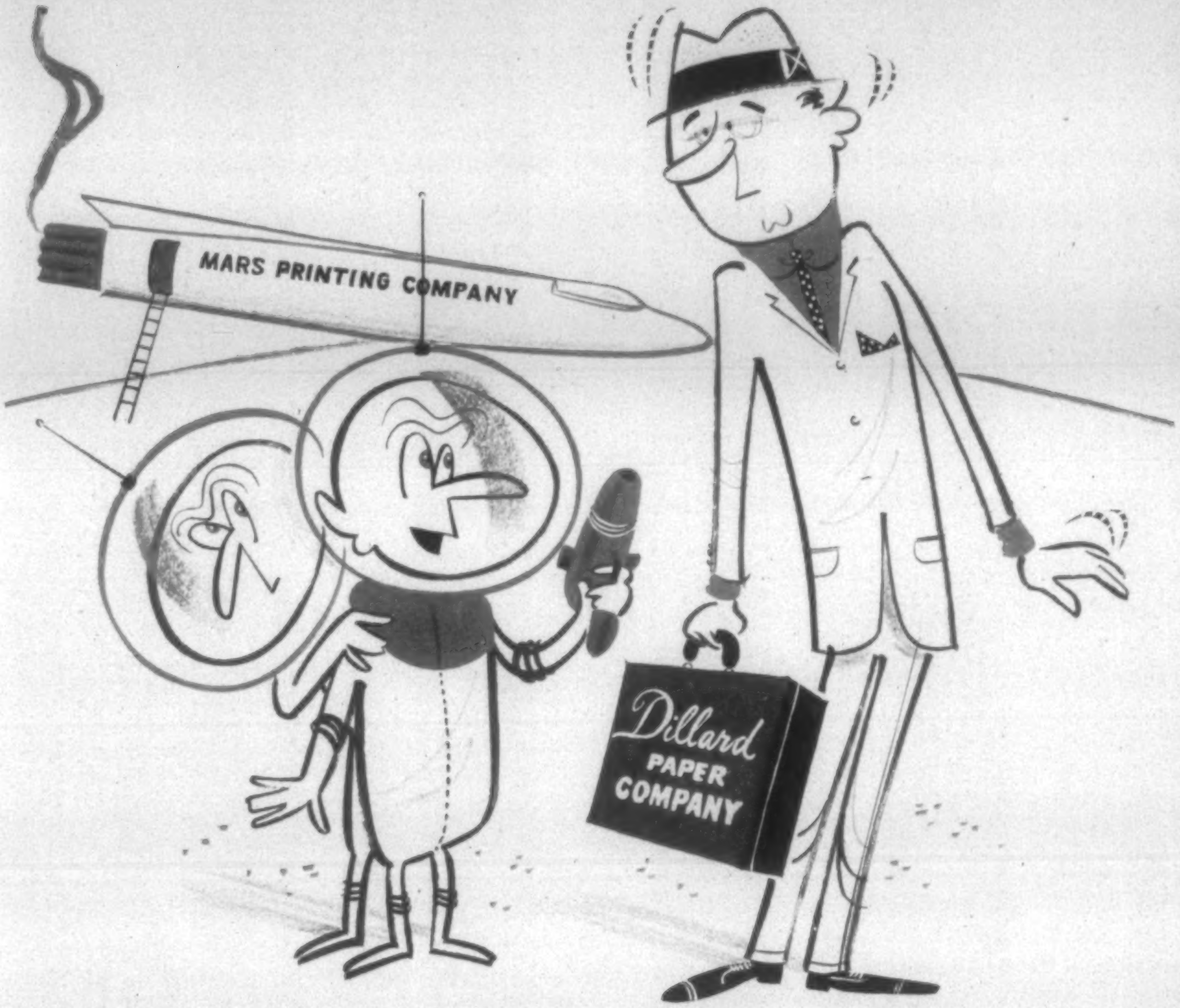
"The figures," the report states, "show the advantage of having a diversified line of product. This last year, when the entire machine tool industry was going through its worst period since the depression of the 1930's, our shipments of textile machinery held even with 1957. Our machine tool orders appear to have improved somewhat ahead of those of the machine tool industry. The prospects are good for an increased volume of textile machinery in 1959."

Whitin Machine Works Buys American Type Founders Co.

Whitin Machine Works, Whitinsville, Mass., has arranged to purchase the American Type Founders Co. of Elizabeth, N. J., according to J. Hugh Bolton, Whitin president. Whitin will purchase the company for an unannounced sum through a subsidiary, Whitin-ATF. The company has manufactured a line of offset presses for ATF since 1956. American Type Founders is nationally known in the graphic arts field and will continue to do business under its present name. Its offices will remain in Elizabeth, N. J., and its nation-wide sales, service and distribution facilities, employing over 500 people, will be operated without change.

Crompton & Knowles Reports Increased Profits For 1958

Crompton & Knowles Corp., Worcester, Mass., reports earnings of $811,344 or $1.84 a share in 1958 after provision of $990,195 for taxes. This compares with net earnings of $338,761 or 76 cents a share in 1957. Gross operating profit for 1958



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1926 "IF IT'S PAPER" 1959

was $5,219,729 against $4,906,696 in 1957. An unsatisfactory volume of deliveries to textile customers was balanced by diversification sales, the company reported. It said that the prolonged history of severely restricted purchases of weaving equipment compels it to be cautious in any prediction of the immediate future. However, the company reports that the backlog of orders for looms is better than it was a year ago and that there appears to be a much healthier interest in Crompton & Knowles looms on the part of mills than at any time in some years.

Berkshire Color & Chemical Opens Southern Branch Office

Berkshire Color & Chemical Co. announces the opening of a new Southern branch office with complete warehouse facilities and laboratories at 3209 Cullman Avenue, Charlotte, N. C. Thomas J. Ratajczak will be Southern district manager. The newly equipped laboratories will enable Berkshire to handle all service work required by its customers in the Southern area. Charles P. Van Name, who for a number of years was with Burlington Industries, has been named technical director.

All Berkshire customers now being serviced through Valco Inc. of Thomasville, N. C., formerly Southern representative for Berkshire, will continue to be serviced through Valco until July 1, at which time Valco will close all sales in the dyestuff field.

American Enka Reports Increased Profits For 1958

American Enka Corp. reported to shareholders recently that a sharp upturn in demand for the company's products in the final quarter of 1958 enabled it to end the year with sales and earnings substantially ahead of 1957. Consolidated sales of $73,533,145 were the highest in the company's history and were 13% above the previous year's sales of $64,739,351. The 1958 figure includes approximately $4,866,000 sales of The Rex Corp. since date of acquisition in March 1958.

Consolidated net income for 1958, including special credits, amounted to $1,987,853, or $1.48 per share on 1,338,968 shares outstanding at the end of the year. Net income from operations was $1,364,853 or $1.02 per share. This compares with 1957 net income of $1,266,744, or 93 cents per share on 1,355,448 shares. J. E. Bassill, president of the company, said that a major share of the earnings resulted from a particularly good fourth quarter, which followed nine months of unsatisfactory business for the company and for the rayon industry generally. "Increased acceptance of the company's nylon yarns in 1958 added materially to earnings and led to a decision to proceed with a second major expansion of the company's nylon facilities," he told shareholders. "Construction began late in 1958, and is expected to be completed in the Spring of 1960. This expansion will double capacity for the manufacture of fine filament nylon yarns. The outlook for the company's rayon staple business improved during the latter part of 1958 and both production and sales reached the highest levels of the year."

Demand for the company's new superstrength viscose yarn for tires sold under the certification mark Tyrex has exceeded the company's productive capacity and was an important factor in the higher earnings for the final quarter, Bassill reported. American Enka has completed conversion of all of its tire yarn facilities and a part of its textile yarn facilities to the manufacture of Tyrex yarn.

Bassill also reported that during the second half of 1958 Enka commenced limited production of an improved cellulosic staple fiber tentatively designated Fiber 500, for use alone and in combination with natural and other man-made fibers.

Johnson Motor Lines Begins New Modernization Program

A $1,500,000 equipment modernization program is underway by Johnson Motor Lines Inc., according to M. E. Sheahan, president. The initial phase includes purchase of 155 trailers and 33 new tilt-cab type pickup trucks now being received. The production schedule calls for complete delivery during the second quarter of the year. The trailers are equipped with skylights for inside visibility, and are so constructed as to provide maximum inside space available within legal exterior dimensions. Johnson, headquartered in Charlotte, N. C., also operates Atlantic States Motor Lines Inc., with broad service throughout the Eastern states from Massachusetts to Georgia, through 23 terminal and operating facilities strategically located at major shipping and receiving centers.

Eastman Kodak Reports Increased Fiber Sales

Eastman Kodak Co. reported a gain in the sales of its textile fibers for 1958 in its recently released annual report. The increase was partly due, the company said, to the expanded use of heavier denier acetate fibers in upholstery and carpeting and Verel acrylic fiber in carpeting. These products are made by the Tennessee Eastman Division in Kingsport, Tenn.

Total sales of all products reached $828,801,269 in 1958 compared with $798,283,443 for 1957. Net earnings of $98,912,039 or $5.13 a share were reported for 1958 as compared with $98,108,305 or $5.09 a share in 1957.

Chemical Facilities Costing $1.8 Billion Completed In 1958

Privately-financed chemical production facilities costing a record total of $1.775 billion were completed in the U. S. during 1958, according to figures given by the Manufacturing Chemists' Association. The previous one-year high of $1.3 billion for completed construction was established in 1957.

The association in releasing results of its annual construction survey, announced that an additional $1.054 billion will be spent for projects now underway and $464.090 million for projects scheduled for groundbreaking in the near future and completion before 1961. This brings total chemical plant construction to an estimated $3.293 billion for the three-year survey period, 1958-60.

The combined three-year expenditure represents a total of 802 projects by 287 companies in 432 communities of 43 states. The $1.518 billion total for the survey categories of Under Construction and Planned (1959-60) Construction is more than $1 billion under the $2.54 billion listed for the same categories in last year's survey results.

Sales Of The Du Pont Co. Off Seven Per Cent In 1958

Sales of the Du Pont Co., Wilmington, Del., were $1,829 million in 1958, off 7% from 1957, but in the final three months set a record high for any quarter in the company's history. After a slow first quarter when sales were down 17% from the corresponding period of 1957, they improved in each successive quarter, reaching $505 million in the fourth quarter, 8% ahead of the closing quarter for 1957. As compared with 1957, physical volume of sales was about 6% lower whereas the company's index of selling prices averaged about 1% lower. The price index was at the lowest level since 1950 and was only 5% above the 1947-49 average.

B. S. Rose Sells Interest In The Bennett Rose Co.

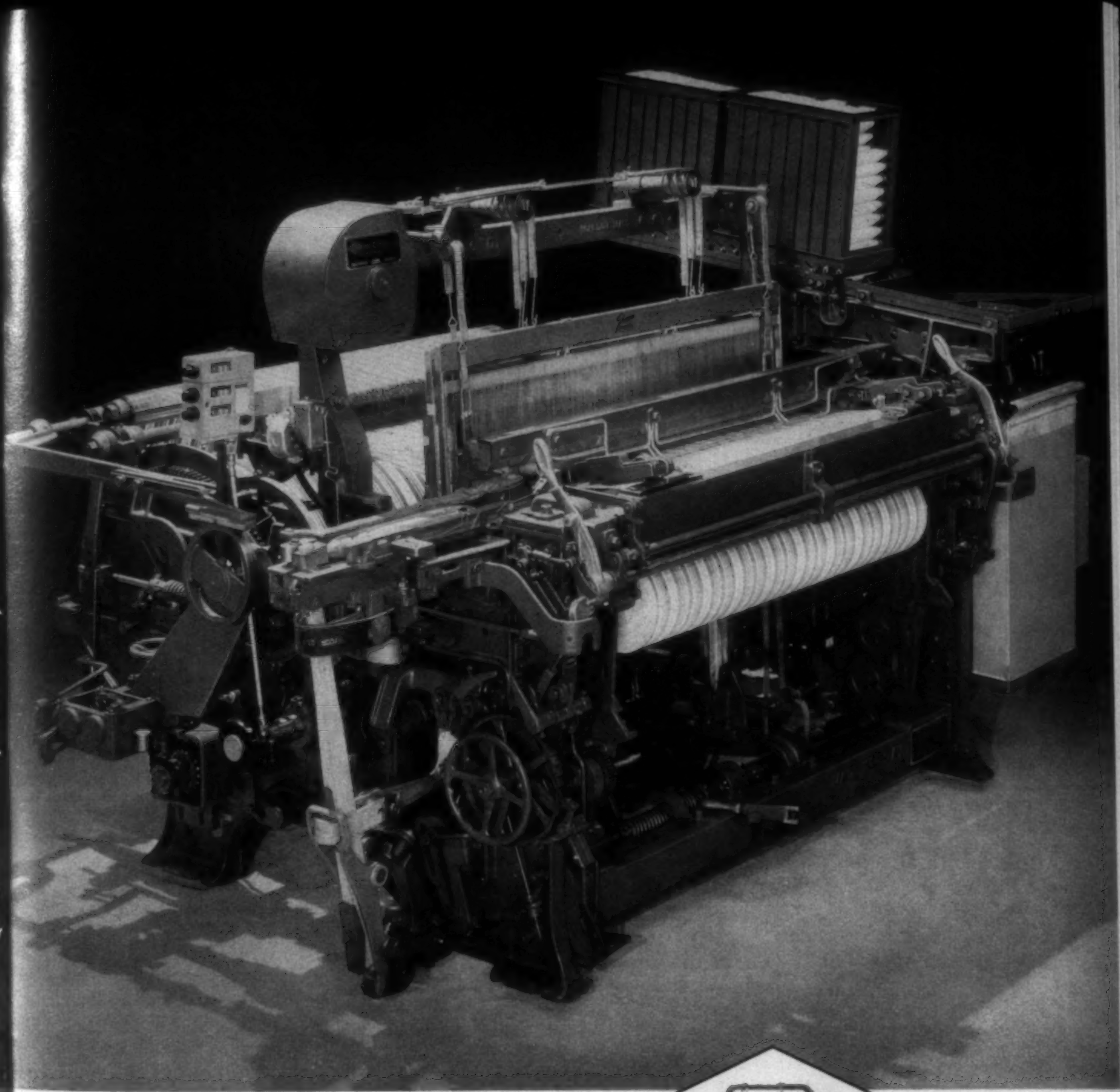
Bennett S. Rose has sold his interest in the Bennett Rose Co., Roebuck, S. C., to J. Fred Timms, Mae Cudd, Paul Teaster and Horace Williams. All are employees of the company. At a special meeting of the board of directors of the company in January J. Fred Timms was elected president and Miss Mae Cudd, secretary. The company will continue to operate under the same name and to manufacture materials handling equipment for textile plants.

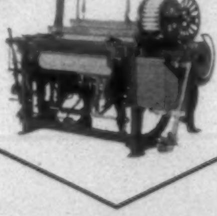
J. Fred Timms will also head the company's sales department as sales manager, and representatives will cover all the Southern states. Bennett Rose will still be connected with the company in a sales capacity.

Increase In Net Income Reported By Celanese Corp.

Celanese Corp. of America, New York City, in its annual report to stockholders, has reported net income after taxes for 1958 of $16,685,917 or $2.05 per common share, after providing for preferred dividends. Last year's net income represented a 48% improvement over that of 1957, before giving effect to a non-recurring Federal tax credit in the latter year. Included in 1957 earnings of $16,081,744, equal to $1.94 a common share, was a $4,842,570 tax credit, equal to 83 cents a common share.

Celanese net sales for 1958 were $223,708,844—the highest since 1950 and third highest year's volume in the company's





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history—as compared with 1957 sales of $192,297,353. In comment, President Harold Blancke said: "Improvement in all major product groups reflects the effectiveness of our closely co-ordinated efforts to achieve greater market diversification."

Netherlands Orlon Plant To Be Built By Du Pont

A new multi-million dollar plant for the manufacture of Orlon acrylic fiber will be built in the Netherlands by the Du Pont Co. The plant, to be operated by a Du Pont subsidiary that will be formed shortly in The Netherlands, will produce Orlon staple and tow mainly for customers in Europe, including the United Kingdom. It will have a capacity of approximately 15,000,000 pounds a year. Construction work will begin later this year, and start-up of operations is scheduled for the last quarter of 1961. The plant will be located in the oldest city in South Holland, about 12 miles from Rotterdam.

Package Lease Plan Offered Textile Firms

A special package lease plan for the textile industry has been announced by Nationwide Leasing Co., Chicago, Ill. Under the new plan any combination of equipment may be considered one package and leased as a unit for three to five years. According to Robert Sheridan, Nationwide president, the package lease permits large and small firms to acquire $10,000, $25,000, $50,000 or more in equipment without capital investment.

Under the package lease plan, a company could lease $10,000 worth of equipment for three years for a monthly payment of $320. The $25,000 package lease would cost $800 monthly for three years, $625 monthly for four years. A $50,000 package lease features three, four and five-year terms. Three-year leases would cost $1,600 monthly; four years, $1,250; five years, $1,050.

"This Nationwide package lease was developed to meet the need of textile manufacturing firms to expand and modernize production facilities without depleting their liquid working capital," Sheridan pointed out. "Any combination of equipment may be lumped together in one package, under one lease, with one monthly lease payment."

American Viscose And Sun Oil Establish A Joint Affiliate

American Viscose Corp. and Sun Oil Co. have established an equally owned affiliate, AviSun Corp., that is scheduled to be the nation's second and largest commercial supplier of polypropylene by mid-Summer. Announcement of the new subsidiary was made by Dr. Frank H. Reichel, board chairman of American Viscose, and Robert G. Dunlop, president of Sun Oil Co., following the filing of the certificates of incorporation in Delaware.

Sun scientists have developed a process for the manufacture of polypropylene resins and American Viscose researchers have developed new processes for the manufacture of polypropylene film and fibers. AviSun Corp. will be an integrated company for manufacture, processing and sale of resins, film, fibers, elastomers, surface coatings and adhesives using olefin polymers or copolymers with other substances.

Commercial quantities of polypropylene resin are expected to be available by mid-Summer from leased facilities of the Port Reading, N. J., linear polytheylene plant of Koppers Co. Inc. One line of the Port Reading plant is now being modified for polypropylene production using a process developed in the research laboratories of Sun Oil. Koppers will operate the process under the technical direction of AviSun.

Joseph Bancroft & Sons Co. Adopts Bancare Trademark

W. R. MacIntyre, president of Joseph Bancroft & Sons Co., has announced the adoption of the trademark Bancare for the wide range of fabrics produced by Bancroft's new non-resinous process in which cellulosic cloth is transformed into a new fabric with greatly improved easy-care properties.

The development of this newest member of the Everglaze family of fabrics was revealed recently as Research Project X. The company is planning a licensing program at the Bancroft plant and full production is expected by early Summer.

Chemstrand Reports Increased Earnings

The Chemstrand Corp., Decatur, Ala., has reported its operating results for 1958 on a consolidated basis. The consolidated figures include the corporation's two wholly-owned foreign subsidiaries, Chemstrand Ltd., of the United Kingdom and Chemstrand Overseas, S. A., Panama. The latter retains a portion of the profits from a large segment of the firm's export sales for servicing overseas activities. The group's total sales were $172,968,381, a gain of 19% over the previous record volume of $145,444,600 attained in 1957.

The consolidated net income in 1958 after all charges, including depreciation and income taxes, amounted to $18,354,723 compared with $18,813,380 in 1957. The consolidated operating costs in 1958 increased to $132,004,834 from $104,455,596 in 1957.

Sales by the corporation were $170,630,520 compared to $146,042,845 in 1957, an increase of 17%. The net income of the corporation in 1958 after all charges, including depreciation and income taxes, amounted to $19,190,793, compared with $20,054,608 in 1957. Total operating costs amounted to $128,830,977 in 1958, an increase over the previous year's total of $103,822,244. Chemstrand reported that nylon sales for the year rose 15% while Acrilan acrylic fiber sales were up 42%.

The company reported that total penetration of the U. S. fiber market by chemical fibers last year was less than 10%. This suggests considerable growth potential, the company stated. The company said its marketing activities are aimed at establishing new consumer products which use its fibers and upgrading present consumer products now in use.

G-E Silicone Department Opens Southeastern Sales Area

The silicone products department of the General Electric Co. has recently announced the opening of a new Southeastern sales territory. Joseph V. Rizzo, formerly assigned to the department's Newark office, has been placed in charge of this territory. Until a new sales office is established, Rizzo will be located in the silicone sales office, 1000 Tuckaseegee Road, Charlotte, N. C.

A 1953 graduate of the Newark College of Engineering with a Bachelor of Science degree in chemical engineering, Rizzo joined General Electric in August 1955. After several months training on the company's chemical and marketing training programs, he joined the sales force of the silicone products department. Since that time, he has served as a sales representative assigned to the Newark office of the Eastern sales district.

E. F. Drew Purchases Two California Firms

E. F. Drew & Co., New York City, manufacturer of auxiliary chemicals, soaps and oils for the textile industry, has purchased the Malaga Oil Products Co. of Lindsay, Calif., and the Strathmore Oil & Fat Co. of Strathmore, Calif. Strathmore becomes a wholly-owned subsidiary and will be operated as Strathmore Vegetable Oil Co. Malaga becomes the Malaga Oil Products Division of E. F. Drew.

A. E. Staley Mfg. Co. Creates New Process Service Section

Creation of a new process service section in the manufacturing division of the A. E. Staley Mfg. Co. has been announced by General Superintendent William B. Bishop with several resulting administrative changes. Named to head the new section as manager of process service is Edward B. Freyfogle, promoted from the position of syrup refinery superintendent.

Bishop said the new section will develop and service special processing equipment for the company and for Staley customers. Examples of this type of equipment are jet cookers and high-temperature converters developed by Staley's for use in applications of Staley products in the paper, textile and food industries.

The new section will be part of the process engineering department, headed by G. James Dustin, technical superintendent. Creation of the new process service section will permit Staley Technical Consultant Oliver R. Esteridge, developer of the jet cooker, the high-temperature converter and other process equipment, to resume full-time activity as technical consultant.

Freyfogle joined Staley's in 1947 as assistant power engineer, made project engineer in 1953, became assistant superintendent of the syrup refinery in 1955, and superintendent of that section in 1957.

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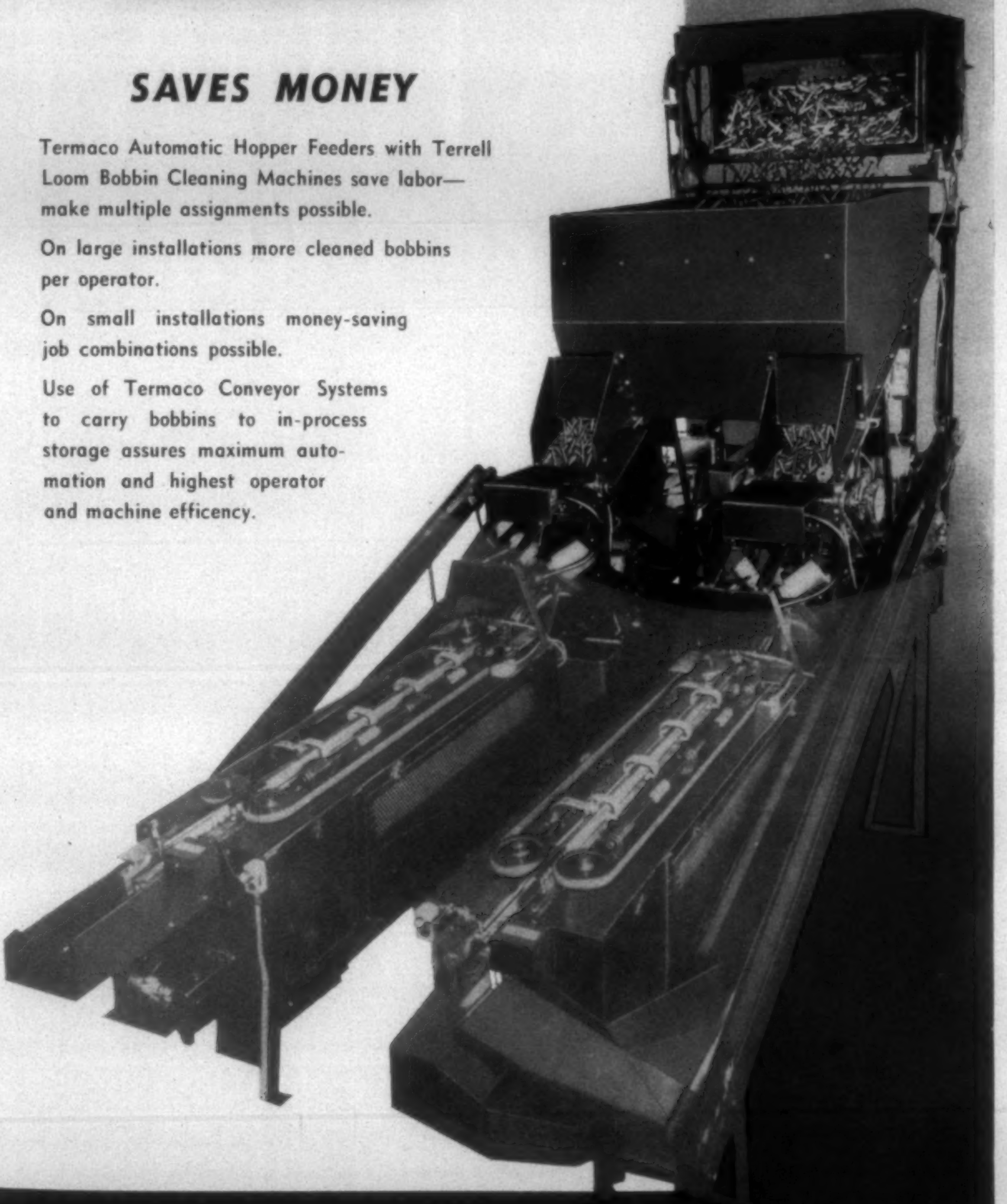

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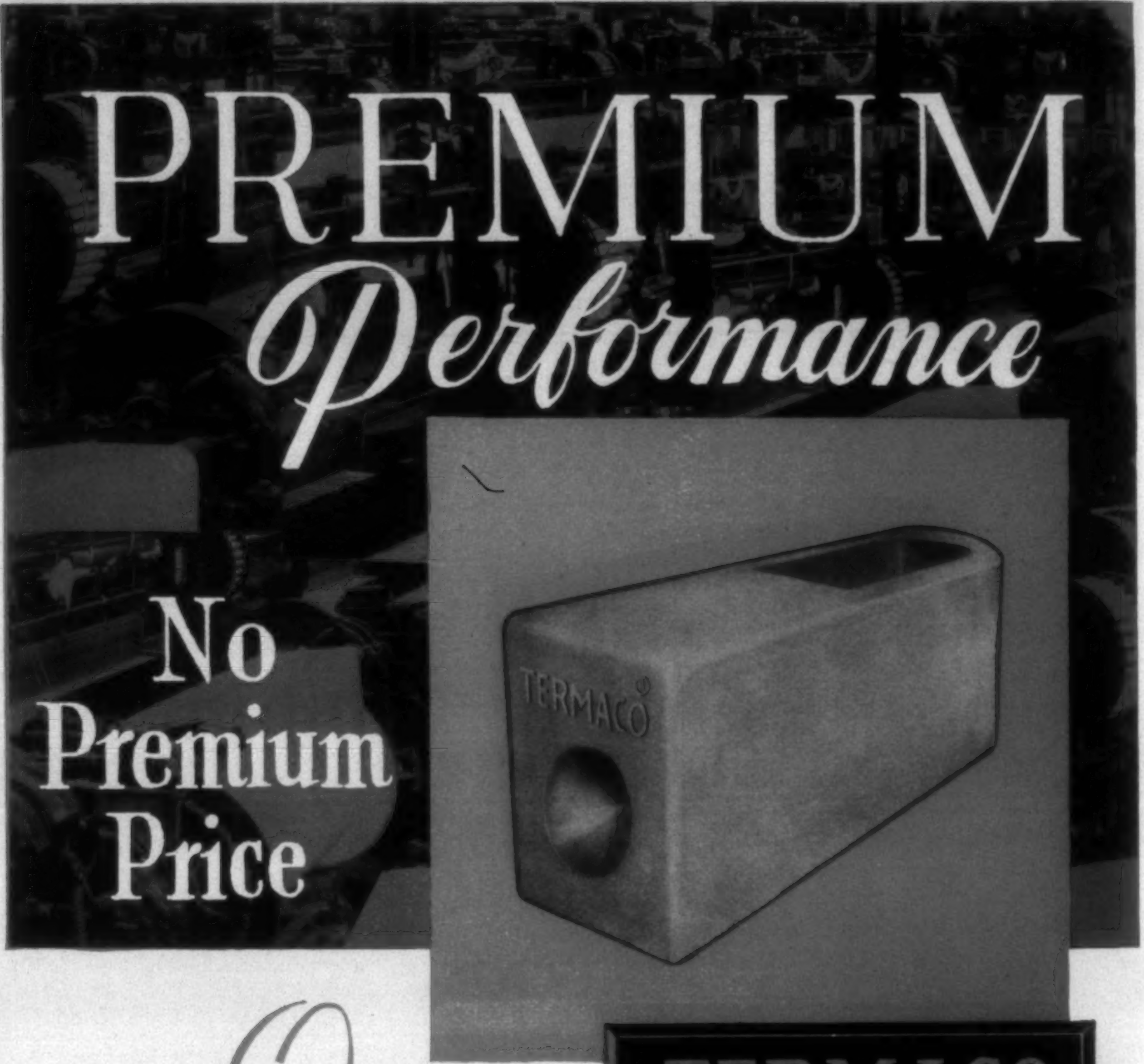

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textile bulletin

VOL. 85 MARCH 1959 NO. 3

What's All This About **Preblending?**

By **GUS GUGGENHEIM**

THE primary objective of preblending is to provide the mill with more thoroughly blended cotton fibers and, in the case of blends of cotton and man-made fibers, to provide exact blends in bale form. The need for such an operation is seen from the fact that cotton, being a product of nature, is not consistent in its characteristics. These characteristics—fineness, maturity, trash content, staple length, etc.—are dependent in large measure on local weather conditions in the growing area, variety of cotton, method of harvest and ginning, and many other variables.

Because of this inconsistency in character, all cotton mills blend bales of cotton in the opening room. Blending a number of bales reduces the possibility of certain bad bales entering the mill at a given time and causing inefficient running conditions. The number of bales in a blend or mix varies from mill to mill and is many times based on the amount of space available in the opening room rather than *on scientific fact.* In spite of this blending oftentimes percentages of poor quality bales get in the mix and wreak havoc with the operation of the mill's carding and spinning equipment. Waste production fluctuates widely at these times. Yarn or fabric quality is also affected to a considerable degree.

This view is supported by a statement concerning the need or usefulness of preblending made by J. L. Delany, superintendent, Joanna (S. C.) Cotton Mills, before the South Carolina Division of the Southern Textile Association, Sept. 27, 1958. "We all have been confronted by the ill effects of insufficient blending or no blending. This shows up in unexplained non-uniform performance such as ends-down in roving and spinning, bad work on warping, slashing and high loom stoppage."

Mr. Delany further states that, "The average mill does not have space to put down enough bales to do the blending in its opening. Neither is the conventional opener line designed for this amount of (preblending) blending work. Also, consider the present day practice of feeding no more than three pickers from one opening line with the customary two feeders per picker. This limits the amount of bales per mix to about four-to-six to the blender, times six blenders, or a minimum of 24 and a maximum of 36 bales. Should more be crowded in, the chances are that the human element of failing to feed a like amount from all bales all of the time would certainly militate against the end result of the desired blend."

All mills blend raw material before picking. Many times the amount of blending is based on the floor space available in the opening room rather than on scientific fact. Why is blending necessary? What are the advantages of preblending? Here is a thorough examination of the facts surrounding preblending and a suggested solution to one of textile manufacturing's biggest problems.

Theory Advanced

An interesting theory regarding the utility of preblending has been advanced which cites the loss of doublings as being the core of most mill problems with spinning operating efficiency peaks and valleys and dye streaks. The cause of this trouble is usually laid to "long draft" spinning. The loss of doublings, under this theory, is more accurately given as the root of these troubles. This is true since any good statistician can show that the odds do not support the idea that doublings cancel out thick and thin places.

The real advantage to doublings is the blending to which the fibers are subjected during processing. In 19th century mills it was not uncommon for mills to have doublings of 25,000 and more. Although one-process picking was a routine practice in those days, carded sliver was run through railway heads and doubled 16 times before going to three-process drawing, three-process roving with two or three ends up, and two-end up spinning. The fiber blending effect of these doublings was terrific. In addition stock-in-process was much greater than in the modern mill with perhaps 36 total doublings in the entire operation. This greater amount of stock in process enabled the cotton which was opened on one day to "catch up" with cotton that had been opened on previous days.

Of course, the industry can never go back to the old methods of processing. Labor and machinery costs would be astronomical under present conditions. The mills can, however, regain the good effects of doublings by preblending raw materials. Even though doublings are lost forever their effect, resulting in more uniform yarns, are obtainable by blending large numbers of bales.

Why Blending Is Necessary

Blending is necessary because cotton's characteristics are variable. Blending is done to reduce this amount of vari-

Advantages Of Preblending

Preblending results in:

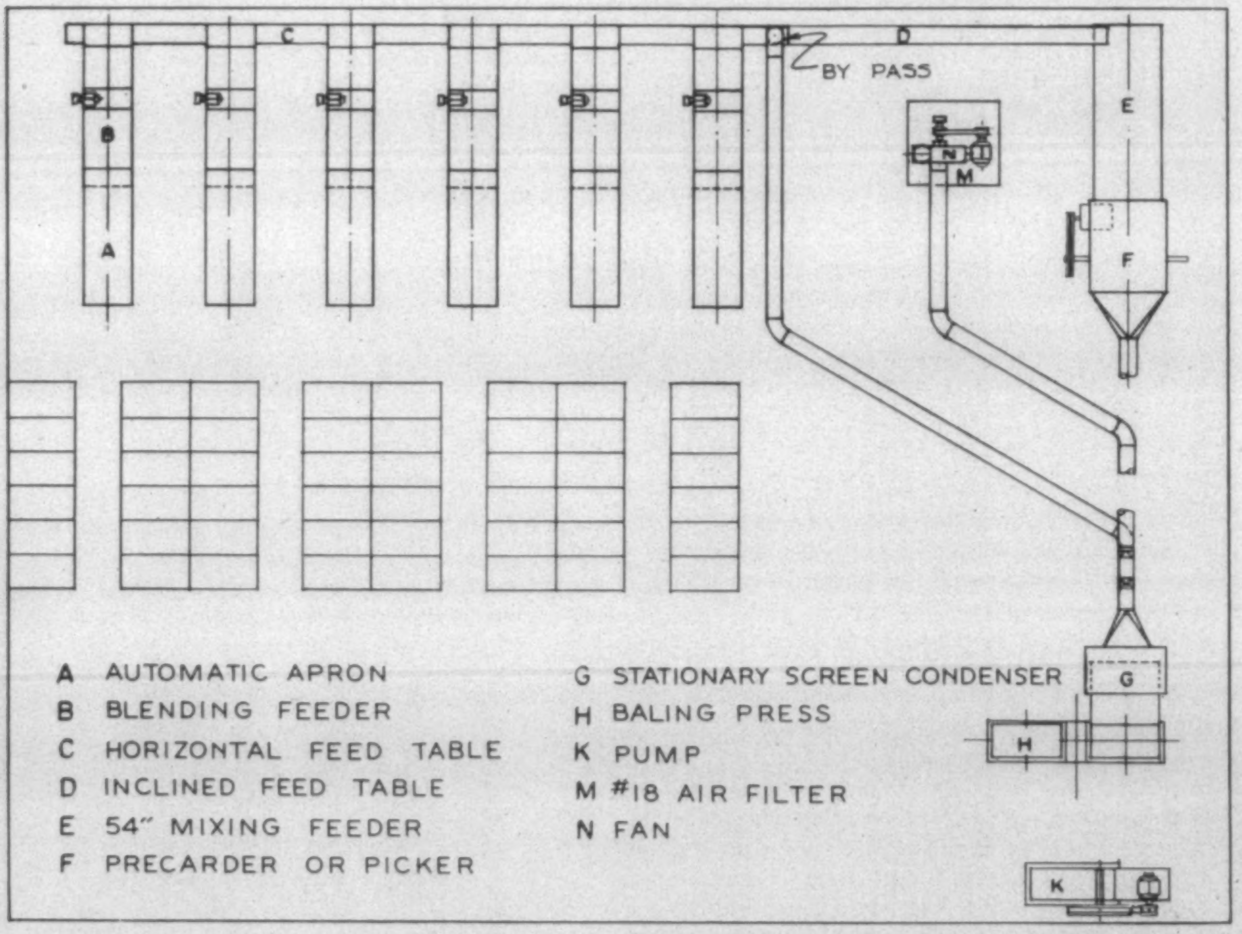
1. (1) uniform raw material.
2. (2) elimination of dye streaks.
3. (3) better looking and stronger yarns.
4. (4) uniform grades of bleached white color.
5. (5) no reject bale shipping expense.
6. (6) use of lower grades of cotton.
7. (7) elimination of peaks and valleys in spinning efficiency.
8. (8) reclamation of the effect of doublings in existence prior to long draft spinning.

ation. The amount of blending done is proportional to the reduction in variation. Evidence that weather has considerable effect on cotton characteristics is shown in a paper delivered to the Spring meeting of the Piedmont Division of S.T.A. by S. C. Mayne Jr., Jim N. Little and Earl E. Berkley, all of Anderson, Clayton & Co. It was noted that "weather played havoc with the quality of the 1957 crop produced in the raingrown section of the (cotton) belt. Early samples from these areas were the best cotton seen in many years. The cotton was bright, had good Micronaire readings, and the Pressley strengths were well above average. Then the unseasonable, heavy and steady rains began, which made it impossible for the farmers to harvest their cotton for weeks at a time. The open cotton was, therefore, badly damaged in the field."

Further effects of the weather were emphasized by Ralph Hoisington, Anderson, Clayton & Co., at a cotton classer's clinic held in May 1958 at Alabama Polytechnic Institute, Auburn. He said that an important consideration is the amount of moisture in the ground prior to planting. "Normally in the cotton belt, the ratio of moisture leaving the ground is greater than rainfall during the growing season." It naturally follows that when the crop is planted with a deficient amount of moisture in the ground, it will be adversely affected. He said that if the cotton is grown with deficient moisture, the odds are against having good staple length.

Too much moisture in the ground at planting time leads to a late harvest and this will also lead to trouble. Temperatures existing during the growing season affect the fineness of cotton. Relative humidity around harvest time affects the staple and grade of cotton because fibers with varying amounts of moisture in them are affected to different degrees by the gin saws.

A harvesting practice known as "scrapping" is another reason for the necessity of blending. The spindle cotton



This blending system, designed by Aldrich Machine Works, handles 2,500 to 3,000 pounds of stock an hour and requires two men to operate. The stock gets 36 doublings in one pass through the system which is designed specifically for running small lots. A second pass through the system or a 36 bale lay-out on the opening room floor nets about 1,300 doublings before the stock gets to the cards. More elaborate, higher production systems producing 5,000 to 6,000 pounds per hour are designed with feeder hoppers feeding blending hoppers before going to the baling press.

picker will not pick bolls other than those which are well opened. The gathering of opened and unopened bolls takes place during the scrapping operation after the spindle picker has been over the field. These bolls are opened at the gin by a "boll buster" and the immature fiber picked out by the teeth of the saw gin. The immature fiber is mixed with and pollutes the good fiber picked by the spindle picker.

More On Why Blending Is Necessary

John Harris, cotton classer, Russell Mfg. Co., Alexander City, Ala., at the same clinic, said that classing was highly specialized and depended a great deal on individual classer's judgement. To emphasize this point he reported that the 31 samples he had with him had been graded and stapled by three different classers. Only one of the 31 samples had been called the same by each of the three men.

D. P. Cook, West Point (Ga.) Mfg. Co., at the same clinic said that cotton purchasing was like a tug-of-war between getting good quality cotton for efficient mill operations and a good price advantage for a profitable selling position. The uniformity of quality cotton is most important and the color of the cotton must be uniform.

Since cotton's quality is so variable, Mr. Cook said that all information possible must be used in making purchasing selections. General information cited was: (1) long range weather reports; (2) government supplied statistics; and (3) crop letters circulated by various suppliers. Specific information which he said was of importance includes: (1) mill quality reports; (2) government spinning tests; (3) laboratory tests; and (4) our own testing in our own mills.

A. P. Aldrich, president, Aldrich Machine Works, Greenwood, S. C., told a Fall 1957 S.T.A. meeting, "You have all noticed, of course, that cotton is not what it used to be. It is often immature, it is not uniform, it does not always spin as well, and it does not dye as well. If you make fabrics that are piece-dyed you have probably had a great many complaints about uneven dyeing." He points out that these are the result of many things, such as machine picking, certain deplorable ginning practices and even government controls.

A Way Out

A way out of the dilemma was offered by Mr. Aldrich, "Not too long ago one of our customers was complaining that he could not get his cotton to dye satisfactorily. He agreed with us that an increased amount of blending might help, so we installed one of the blending outfits we have been making for woolen mills. We put in a blending system that enabled him to blend from 1,200 bales of cotton, so that any piece of cotton you would pick up would have some from each of those bales in it.

"That would seem to be one way of getting at it. If you can not have what you want, at least make what you have completely uniform. That excess blending will obviate trouble in dyeing. It may not dye what you want it to dye but at least it will dye uniformly."

Mr. Aldrich concluded, "Today the mills are finding it necessary to get bigger and bigger laydown. Of course, it is fantastic, but these people I mentioned started out with the idea of blending from 5,000 bales but they did not have the warehouse space. It is going to be interesting to see what will happen."

How Blending Helps

The Mayne, Little and Berkley paper mentioned previously reported that blending helps in a number of cases. "The Micronaire reading of blends of field-damaged cotton with fine, strong cotton shows practically the same relationship to the number of neps in the card web as normal, undamaged cotton (Fig. 1). It will be noted that the number of neps in the card web decreased as the amount of coarse, field-damaged cotton in each blend was increased."

Another way in which preblending can help was pointed out in an article which was published in the September 1958 issue of TEXTILE BULLETIN under the title "Cavitomic Cotton." Cavitomic cotton is described as microbiologically damaged cotton which results in: (1) increased fiber breakage during processing; (2) increased waste during processing; (3) a decrease in spinnability; and (4) a lowering of yarn evenness and strength. "When high percentages of affected cotton get into the opening room, the results in spinning are sometimes strikingly evident. Blow-ups can be traced directly to this damaged cotton. An Alabama mill's cotton department and laboratory permitted the use of 1,000 somewhat sub-standard bales of special purchase cotton based on their normal fiber tests of Micronaire, Pressley, and grade and staple.

"The cotton was put into process and things began to happen. Spinning ends-down increased and yarn breaking strength decreased to a point that the blend had to be taken out of the opening room. Additional testing of the fiber indicated the symptoms of cavitoma. The only way the cotton could be run was in doses of not more than 20% of the total mix."

The Laboratory-Less Mill

The article says in summing up what can be done about cavitoma, "With certain precautions cavitomic cotton can be run through the mill without seriously affecting run-

BLENDING TO DECREASE NEPS

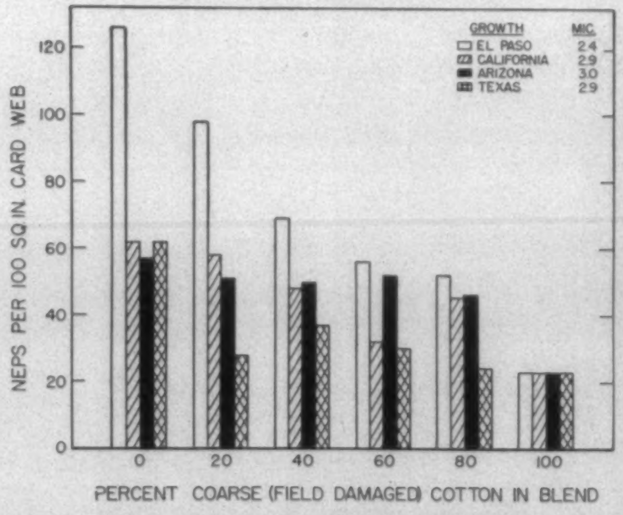


Fig. 1—The Micronaire reading of blends of field-damaged cotton with fine, strong cotton shows practically the same relationship to the number of neps in the card web as undamaged cotton. The number of neps decreased as the amount of coarse, field-damaged cotton in each blend was increased.

ning conditions or yarn quality. These precautions include: (1) learning to recognize the affected bales; and (2) blending affected bales in low percentages with good bales. Drs. Etling and Hall (of The Kendall Co. research division) report that they suspect that affected bales which represent not over 15% of a mix will not give serious difficulty."

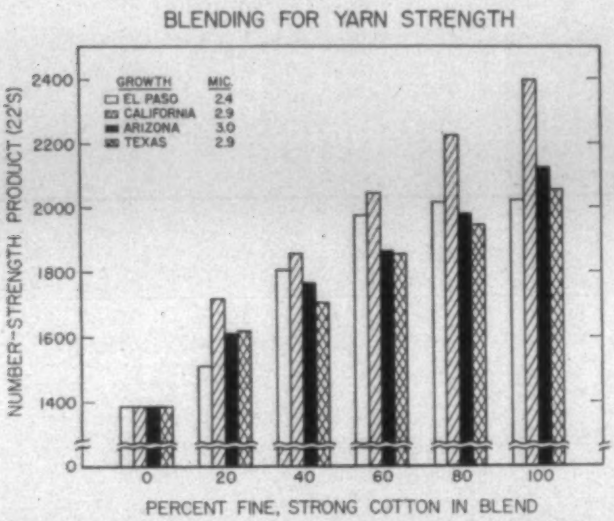


Fig. 2—This graphical demonstration of the effect of blending on yarn strength shows that field-damaged Eastern cotton, when spun alone, produced an extremely weak yarn. Yarn strength increased as increasing percentages of strong, fine cotton was added to the blend.

Preblended stock may make it possible to use smaller bale lay-downs in the mill and, thereby, make possible the movement of opening equipment to an area near the pickers and eliminate the detriments of long ducts. This would overcome the difficulty pointed out by Dr. Zoltan Szaloki, assistant director of research, Whitin Machine Works, in a paper delivered before the 1957 Cotton Research Clinic. "Often the mixing, or the mixing and opening room, is some distance away from the picking machinery. Experiments have shown that long ducts with the dust trunks produce an increase in tuft weight, counteracting what was achieved in the opening line. Sometimes the distances are so great that the cotton has to be drawn through a fan. This is, of course, an even worse situation and detrimental to the nep count."

The Mayne, Little and Berkley paper offered another advantage to be gained by blending. "If the mill exerts careful control over blending it may be entirely practical to use cotton having lower Micronaire readings at a considerable saving in the cost of the cotton.

"Since less twist is required to obtain optimum strength of roving and yarn from cotton having a lower Micronaire reading, front rolls may be operated at higher speeds thereby increasing production." (See Fig. 2)

Present Blending Methods

It was previously stated that the number of bales in a blend or mix varies from mill to mill and many times is based on the amount of space available in the opening room rather than on scientific fact. An idea of present blending methods in mills is seen from statements made by J. L. Orr, Whitin Machine Works, and Harvey Sills, Saco-Lowell Shops, before the Spring 1958 meeting of the Piedmont Division, S.T.A. Mr. Orr said, "Opinions differ widely in regard to the optimum number of bales which should be used for satisfactory blending. One practical limiting factor is the capacity of the bin of the blending feeder, and another, the smallest amount of cotton the tender can lift or strip from each bale. Since the smallest pieces of cotton the tender takes off the bale are in the neighborhood of ten pounds and the capacity of the bin of the blending feeder is approximately 60 pounds, it is obvious that about six bales per blending feeder is the optimum practical figure.

"It is quite often found that the number of blending feeders is insufficient, usually because of inadequate space. They are frequently overloaded and forced to run up to 300 to 350 pounds/hour instead of the recommended 160 to 200 pounds/hour," he said.

Mr. Sills said, "The days are past when a mill could get a good blend from, say 20 to 26 bales. Today it is necessary to lay down at least twice this amount and feed a very thin layer from each bale in order to get as many

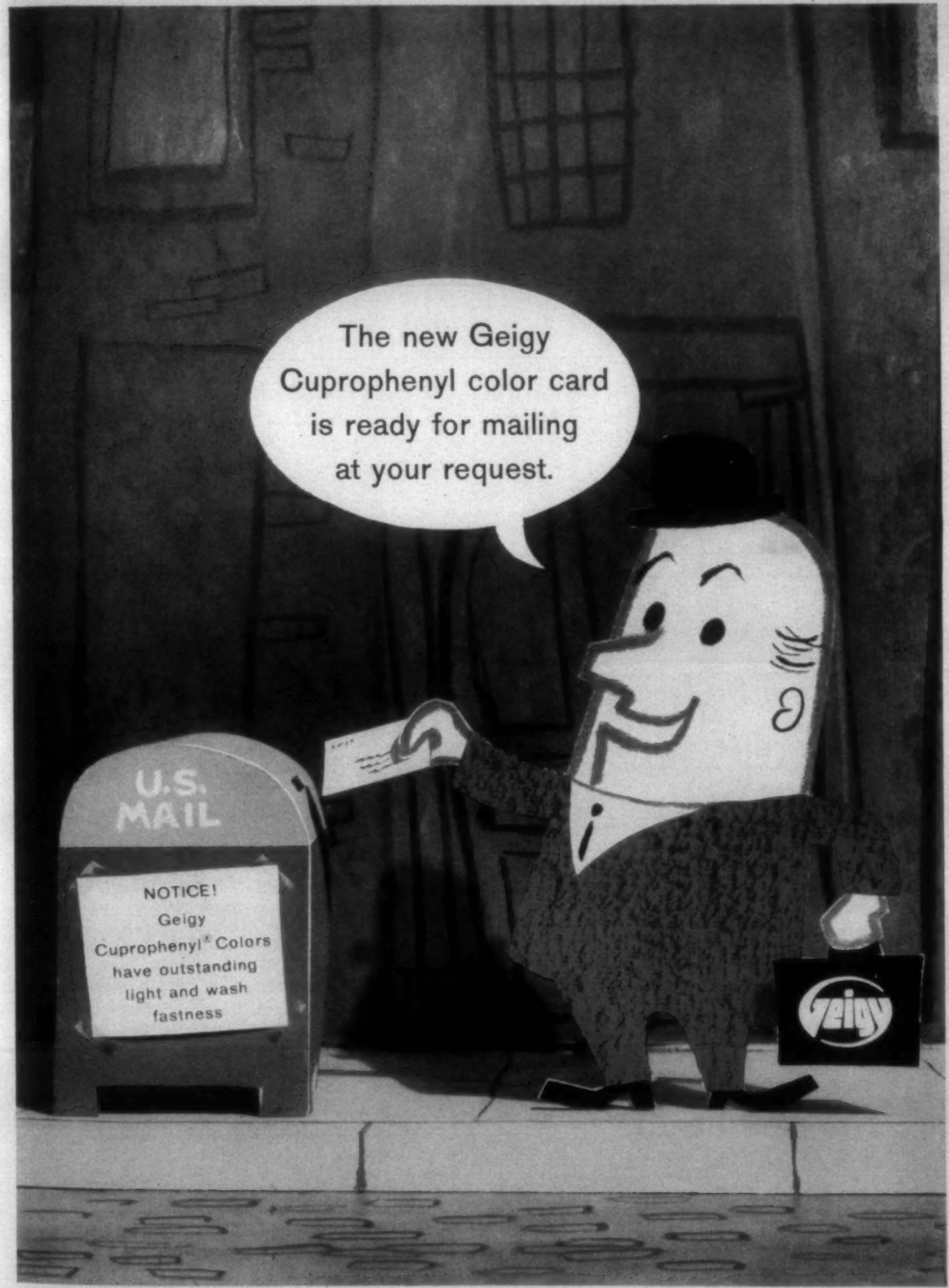
Will Cotton Get Better?

As one man put it, "If the steel industry didn't have any more control over its raw product than the textile industry, I would never go up in the Empire State Building again because that rascal would be liable to fall down at any moment." The chances are that cotton harvesting and ginning conditions are going to get worse instead of better as far as the spinner is concerned. Due to the activities of the Commodity Credit Corp., the spinner is not the cotton farmer's customer. The farmer sells his cotton to middle men or it goes into the loan. Many times it is more advantageous to the farmer for his cotton to go directly into the loan.

If the spinner had the opportunity to reject cotton from certain gins because of the damaging results of deplorable ginning practices he would have gained some control over the raw material. Unfortunately the farmer sells his cotton, based on its appearance, to parties other than spinners. If it is upgraded in appearance by ginning practices, even though at the expense of spinning property degradation, the farmer gets a few more points per pound and goes away happy.

It has been shown that in many cases the farmer actually gets gypped by using gins with blowtorch dryers and lint cleaners. This is so because the dryers leave as little as 4% moisture in the cotton when it is baled. This moisture never gets back into the cotton until the bale is broken open in the mill's opening room. The farmer also loses the price he would have gotten for the waste taken out of the stock in the lint cleaner.

The industry is willing to pay the farmer a fair price for cotton. But the industry wants cotton which has had the seeds taken out and that is all. Not overdried cotton. Not cleaned cotton with trash ground up to pepper size. Will cotton get better? No! Not until and unless Federal Government gets out of the cotton business.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layers from different bales into one feeder hopper as possible. The production of each blending hopper should not be over 150 pounds maximum per hour.

"There are cases today where mills have set up extra blending feeders to preblend their stock before feeding their regular or present blending feeders. We know in some cases this will require extra help to get the *extra blending that will be required to maintain their breaking strength of yarn and quality.*"

Agree Not To Disagree

Saying that classers find it easier to agree on the average value of a number of bales than it is to agree on the class of a single bale, Mr. Hoisington said, in an article "Cotton Classing Is An Art," in the September 1958 TEXTILE BULLETIN, "It is possible classers agree in principle and disagree on the details." He continues, "All is not chaos in the industry because, throughout it, reasonable cotton men have agreed to try not to disagree." He says that "the fact that a mill cotton classer may take a 100-bale shipment intact does not necessarily mean at all that he feels every bale to be identically equal to contract specifications. He may consider the average with its small percentage of ups and downs and decide that it's about as good as a fellow classer can do, considering the problems that beset him."

These statements were not made to degrade cotton classers. Indeed, Mr. Hoisington commented that "the cotton laboratory cannot touch him (the classer) for his all-round performance." The statements are included here to add further credence to the fact that cotton's characteristics differ from bale to bale, and, indeed, even within a single bale. The sum total of this evidence reveals something more than the hit-or-miss blending which is done in most mill opening rooms.

If the 100-bale shipment mentioned in Mr. Hoisington's statement was preblended before getting to the mill and later got the usual blending done in the opening room, it is doubtful that the "small percentage of ups and downs" would ever bother the efficiency of the mill.

Why Mills Standardize

Mills go to great lengths to standardize their manufacturing operation. This effort to standardize has increased manifold in recent years. Why should the mill not increase its effort to assure a uniform or standardized raw product? Certainly a uniform raw material would enhance the value of standardized machinery.

How does standardization affect the mill's operation? William Sproule said in "Standardization of Mill Machinery" in the September 1958 TEXTILE BULLETIN, "A few of the ways which standardizing affects quality are variation in: (1) long term uniformity; (2) short term uniformity; (3) twist; (4) product weight; (5) amount of additives; (6) tensions; and (7) operator practices. With respect to cost, the lack of standardization of equipment increases: (1) direct and indirect labor cost; (2) overhead; (3) raw material cost; (4) machine hours to produce the same number of units of production; (5) cost and difficulty in establishing job assignments; (6) cost and difficulty in maintaining job assignments; and (7) machine interference."

With so much at stake, the value of preblended stock deserves serious consideration.

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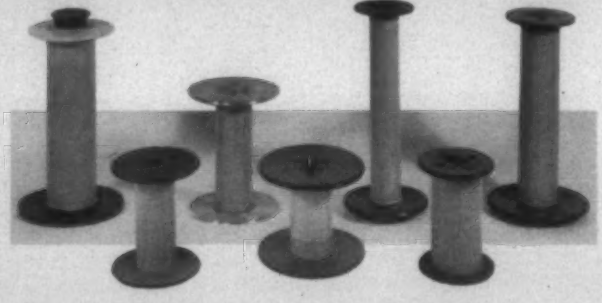

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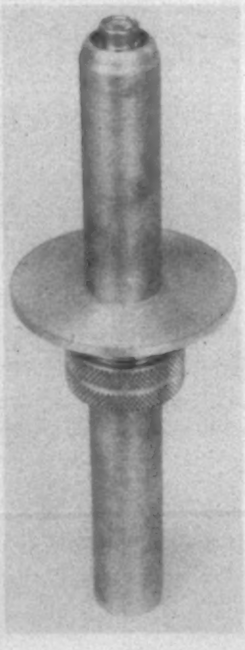

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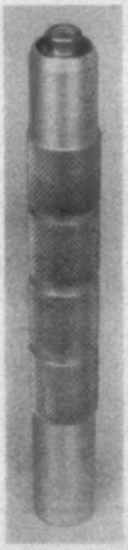

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A Common Denominator For Test Results

By I. SEIBERT

There are all sorts of measures for uniformity such as per cent CV, U and NU. This article points out that a proportionate reference figure can be calculated which relates these various measures to each other. Terms such as four CV and 7½ CV are explained by showing their statistical background and it is pointed out that they are not used for simply "psychological reasons."

ALMOST every textile article I read, or meeting I attend, tends to confuse me just a little bit more in regard to evenness tester results among mills. The purpose of this short paper is to try to reduce all these many levels of test results to a common denominator so that none of us has to make mental calculations to convert the readings of another mill to our own.

Some mills may use a range of variation from the recorder chart, some use the linear integrator (U %), and still others use the quadratic integrator (CV %) and other integrated values. To make matters worse, a great percentage of mills multiply the readings of their respective integrators by four, five, six or 7½ to give a more desirable figure to work with. A short answer to a question as to why this is done might be, "for psychological reasons."

Scientific Basis

First of all, I would like to state that there is a definite scientific basis for the factors four, five, six and 7½. Let's think back to a time in the not-too-distant past when there was no such thing as an integrator supplied by the manufacturers of evenness testers. A standard was developed so that all mills could calculate their charts in an identical manner. We shall call this value $R_1\%$. This value equals the per cent variation of this stock within each yard for ten consecutive yards. $R_1\%$ sufficed for years and compared directly with the Saco-Lowell sliver tester range of variation. There is a difference in the level of readings due to the fact that the tested increment of the Saco-Lowell and the Uster, for example, are not exactly the same.

Other manufacturers, such as Brush Electronics Co., designed their instrument to give a per cent NU. The range of variation is read from a meter rather than directly from the recorder chart. The Brush sensing electrode is of a different length again and there is a slightly different level in the readings between the Brush and the Uster. However, they are proportionate to a reference calculation $R_1\%$.

Other mills were more interested in the extreme variations in the same ten-yard tested length. That is, they were measuring both the heaviest and the lightest points of the entire ten yards. As is expected, this value would exceed the value obtained from the yard-to-yard test. We will call the extreme from high to low over ten yards, $R_{10}\%$.

R_1 equals the variation from yard-to-yard over ten yards, and R_{10} equals the variation over the entire ten yards. It is easily understood that this difference in ranges is due to the count variation, or long-term variation in the stock tested.

It has been observed and proved by statisticians that the range for extreme variation in a tested sample has a correlation to the Sigma or variance of results obtained from testing of the stock. In other words, the difference in results obtained from subsequent tests, under normal conditions, has a direct relationship to the representation or amount of testing incurred. A study of a normal distribution curve will enable the reader to expect 99.76% of all occurrences to occur within plus and minus three Sigma limits.

The Uster Evenness Tester is designed so that Sigma equals CV%. Therefore, six Sigma equals six CV%, and 99.76% of all occurrences will be found within plus or minus three CV, or over a range of six CV. The mills using six CV limits find a basis for their calculations here. Since U equals 1.25xCV, mills using the six CV factor and owning a linear integrator, multiply their U% reading by 7½ to obtain this six CV reading. Six CV is $R_{10}\%$.

It is also true that if the range in variation within each yard is calculated, a small value is obtained. This value is equal to four CV. Therefore, four CV equals R_1. Due to the relationship between CV and U, five U equals R_1.

Length Of Measurements

The Uster evenness tester measures eight millimeter increments of yarn, due to the length of the sensing electrodes. This value is equal to approximately one-third of an inch. In one yard length of electronic measurement, the stock is tested approximately 36x3 or 108 times.

According to statistical formulae, there is a definite relationship between the range of variation and the actual calculated coefficient of variation. That is, with a certain number of observations the CV multiplied by a factor which we call F is equal to the extreme or range of variation in the tested sample.

Now, F varies from observation to observation, depending upon whether or not one, ten, 100 or 1,000 observations are made. When 108 observations are made, R_1 equals approximately four CV. When 300 or more observations are made, R_{10} equals six CV. The numerals four and six are the F factor.

To separate and simplify the purpose of this paper, we have called the 108, or within one-yard observations over ten yards, R_1, and we have designated the 1,080 or over-all ten-yard range of variations R_{10}.

According to statistics, we are now able to express the variations in a tested sample as per cent range of variation, or extreme variation over a tested length of ten yards. Unfortunately, all laboratory personnel are not too familiar with these facts. They know that Mill X multiplies by five, so they do so also. This may or may not be the proper proportion to use and only adds to the confusion now confronting mills throughout the country.

The following formulae are basic:

(1) CV equals Ux1.25
(2) R_1 equals CVx4
(3) R_{10} equals CVx6

It is easily seen from the above that the integrator readings can be multiplied by four, five, six or 7½ to obtain R_1 or R_{10} depending upon the type of integrator used in the respective mills and the type of range required.

Limit Of Perfection

What is needed is a common denominator or basic figure to work with. Dr. Martindale supplied this factor and it is called *I*. Regardless of our within mill calculation of U, CV, five U, four CV, six CV or 7½U, we can convert that to the index or ratio of perfection. The limit of perfection is the best that can possibly be obtained under the known conditions of fiber fineness and sample size expressed as a constant. The index of irregularity is merely the proportion to the limit of perfection, or it indicates how many times worse than perfect the operation actually is.

The limit of perfection in CV% equals 100 divided by the square root to N where N equals the average number of fibers per yarn cross-section. Another way of expressing the limit of perfection is 15,000 divided by the quantity count times the micronaire.

This calculation of the index of irregularity is simplified by nomagrams. These, and an explanation of their use, are found in the Uster integrator manual along with standards for the index of irregularity. Circular slide rules are furnished by the Uster Corp. to owners of their equipment to simplify this conversion.

Assembly Of Instruments Available For Curlator's Rando-Feeder, Rando-Webber

By HOWARD H. LANGDON
Curlator Corp.
East Rochester, N. Y.

THE Curlator Corp., East Rochester, N. Y., has made available an assembly of instruments along with an anti-static fluid feeding system that may be applied to its Models 40-B, 60-B and 84-B Rando-Feeders and Rando-Webbers.

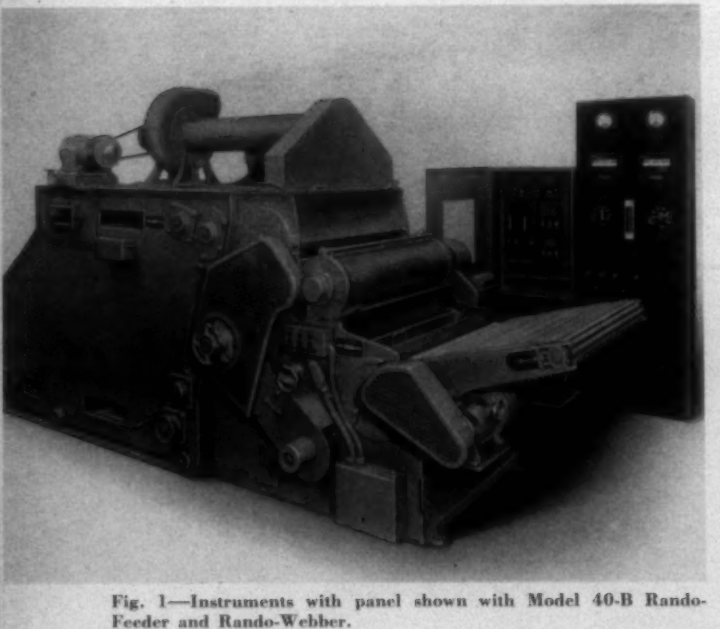

Fig. 1—Instruments with panel shown with Model 40-B Rando-Feeder and Rando-Webber.

This auxiliary equipment should be particularly attractive to fiber manufacturers and suppliers, product development groups and to potential and established producers of non-wovens where economies can be gained by establishing manufacturing and quality control. This is particularly true where limited product runs are alternated to minimize inventory accumulations.

The instruments that are applied to the Rando-Feeder and Rando-Webber are mounted on a floor stand panel as shown in Fig. 1. The anti-static fluid feed system on a Model 40-B is shown in Fig. 2.

The instruments with their respective connections to the machines are:

(1) A mechanical type of pressure gage for indicating the suction pressure in inches of water across the Rando-Feeder air bridge and condenser combination. This gage functions in respect to feed mat formation prior to entering the Rando-Webber.

(2) A three-way mechanical type of gage to indicate suction, positive pressure and differential pressure in inches of water. The purpose is to indicate the zone pressures ahead of the lickerin and subsequent to the condenser and, particularly, the differential pressure across the fiber carrying and forming zone of the Rando-Webber. In this connection, a variable speed fan drive is provided to permit adjustments of the pressure drop across this zone.

(3) An electrical type tachometer for indicating the lickerin speed in r.p.m. including a variable speed drive between the motor and lickerin.

(4) An electrical type tachometer with appropriate scale in feet/minute or yards/hour is provided to indicate the flow rate of the web as it is removed from the Rando-Webber conveyor. There is also a variable drive in this delivery system.

(5) An internal humidifier system is furnished as standard equipment on all Rando-Webbers in connection with their recirculating air system. Instrumentation is provided for indicating the dry bulb temperature, dew point temperature and the relative humidity of this recirculating air stream. Also furnished is a flow rate meter for measuring the quantity of water fed to the humidifier.

(6) An anti-static fluid feed and atomizing system is

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Cartex Mills Div., Carlton Yarn Mills, Inc.	72,200	Double Apron Casablancas
Chicopee Manufacturing Corp.	272,032	Double Apron Roth and Casablancas

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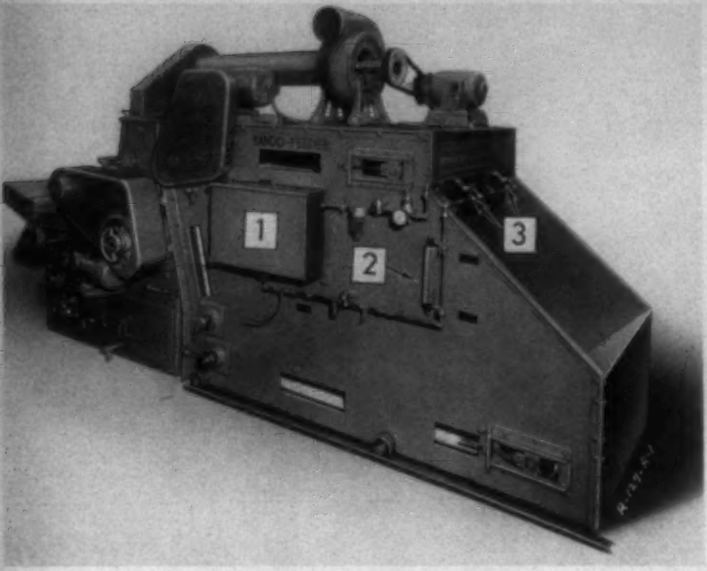

Fig. 2—Curlator Corp.'s new anti-static fluid feed system as applied to the Model 40-B Rando-Feeder. The system includes (1) a stainless steel supply tank; (2) a flow rate meter; and (3) multiple spray heads mounted over the hopper.

shown in Fig. 2 for pre-conditioning the fiber while it is in the Rando-Feeder hopper. The system illustrated consists essentially of a stainless steel supply tank with fluid rate meter and multiple spray heads located over the hopper.

Fundamental reasons for equipping Rando-Web machines with the instruments and devices listed above are: (1) to gain knowledge and control data of certain machine and operating variables which are known to affect fiber processing and the quality of the web; (2) to provide means whereby product development can be carried on in a rational manner for the reason that the important variables may be controlled from run-to-run, fiber-to-fiber, day-to-day, or month-to-month.

While the instruments shown on the panel were provided more for product development procedures, the same variables that are shown as indicating instruments might well be replaced by recording gages and instruments for providing daily records. This is particularly important in the mill when one considers the versatility of these machines and their ability to process a wide variety of fibers, weights and products simply by control manipulation of the machines. For instance, a user may wish to rotate his production from product-to-product at intervals to avoid long runs and inventory accumulation. With instruments and records, it follows that alternate production runs can be set up quickly to the previously accumulated operating data.

It is desirable to explain some of the reasons why the instrumentation described was selected. In the web forming machine where the objective is uniform random lay of the individual fibers, it appears necessary to transfer the fibers in a transfer medium where the individual fibers have freedom to move and to form on the condensing cylinder in random fashion. This implies an air stream in motion. As a consequence, it is necessary to measure and control the transfer medium. This is done through the use of suction, pressure and differential pressure gages along with temperature and humidity control. In order to vary the fiber loading and velocity of the transfer medium, variable speed drives to fans are required. When the various pressures, temperatures, humidities, web weight and product rate are in accord with previous runs it can be expected that the transfer medium characteristics are essentially duplicated. It is not enough to set the fan speed at equivalent r.p.m. in successive runs. A fan is subject to interrelated variables of wide range in its operating characteristics.

Some textile fibers are more susceptible to the generation of static electrical charges than others. There has been a great deal of investigation and literature published both theoretical and practical on this subject. It has been Curlator's experience that most static problems over a wide range of fibers can be overcome by maintaining the recirculating air stream in the Rando-Webber between certain limits of temperature and relative humidity. In addition, room temperature and relative humidity normal to mill experience is also required. Often a pre-conditioning of the fibers in storage eliminates or materially reduces subsequent processing problems in respect to static electricity.

There are fibers on the market which do not fully respond to the conditions mentioned. The anti-static feed and atomizing spray system was developed for use in product development and in mill operations where it is needed.

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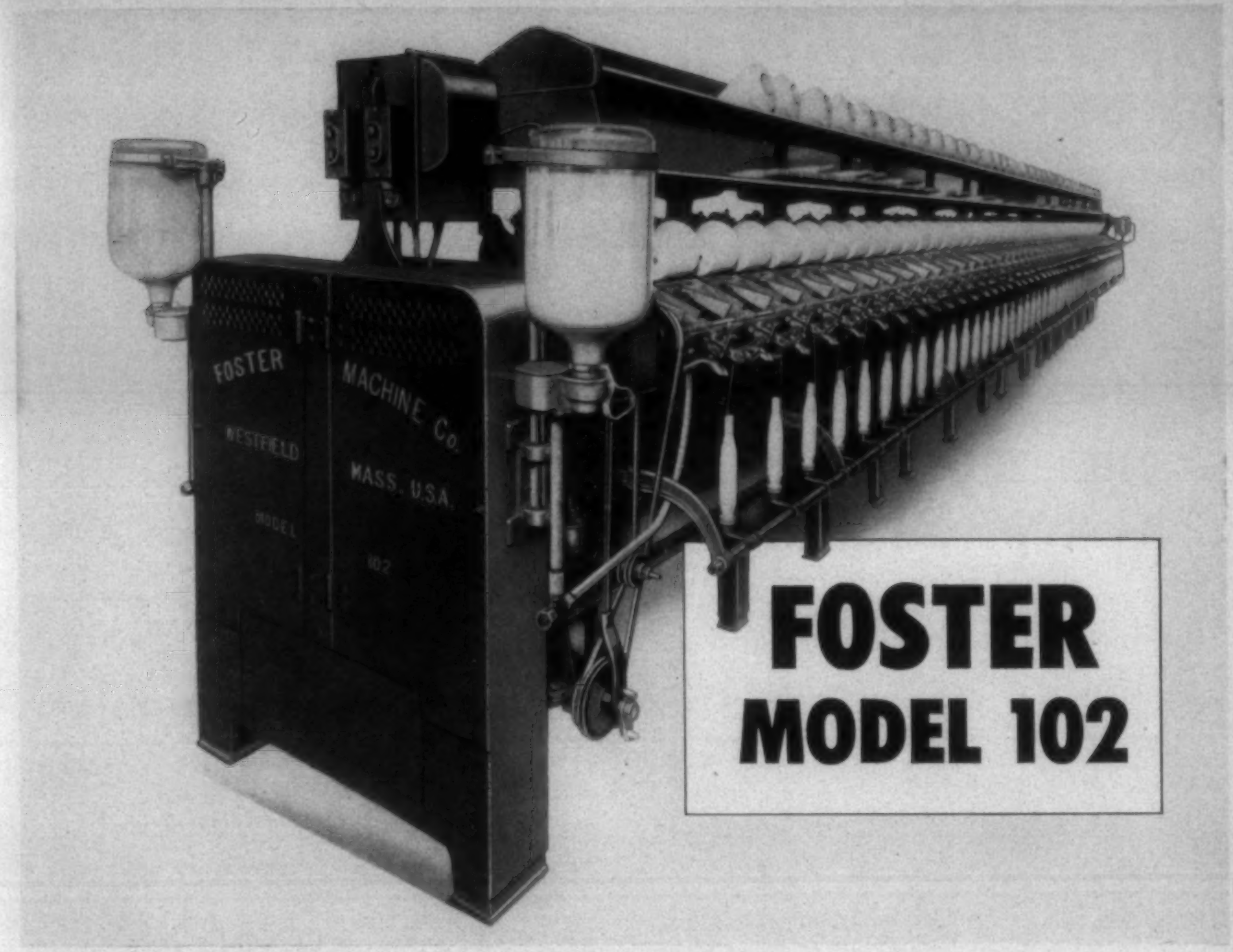

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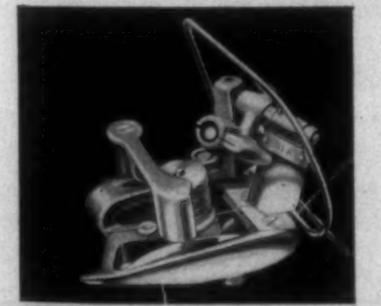

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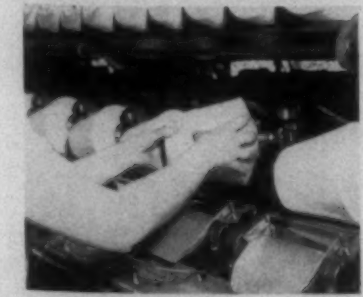

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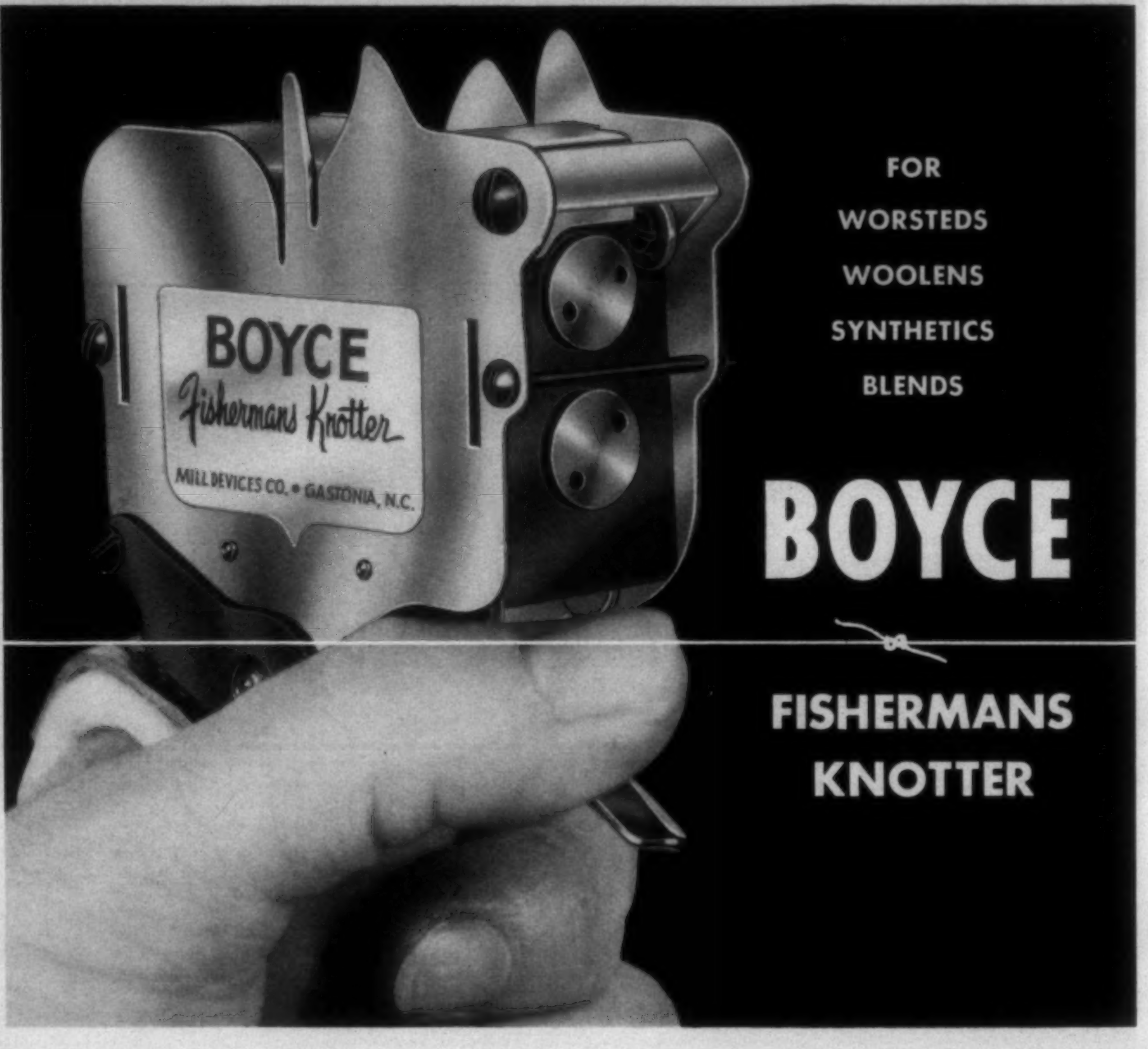

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MODEL L-24—Medium counts in filament and spun yarns.

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MODEL L-30—Coarse counts of filament and spun yarns.

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Opening, Picking, Carding & Spinning

A Case Study

Yarn Manufacturing Modernized

HIGHLAND PARK MANUFACTURING COMPANY

HIGHLAND Park Mfg. Co. in Charlotte is in the final stages of a modernization program which has greatly improved the mill's quality and decreased its manufacturing costs. Concentrating on increasing drafts and package sizes, and improving evenness, the modernization program has reached all yarn preparatory operations. The mill produces fabrics for the popular priced combed dress goods and sportswear trades. Most of these fabrics are made with 37s warp and filling yarn although some 18s and 25s goes into sportswear.

Blending raw cotton according to fiber characteristics has made visible improvement in the consistency of yarn strength over the past two years. The mill uses an 80-20 blend of California or Arizona irrigated cotton and Mississippi Delta or Texas Valley raingrown cotton. Blending brings out the best properties of each type of cotton as well as improving consistency. Irrigated cotton is stronger than raingrown cotton but is subject to neppiness. Raingrown cotton balances the neppiness of irrigated but does not add materially to yarn strength.

Cotton samples are received and graded by the cotton department. Then the samples are tested for Pressley strength and fineness with the Micronaire. Bales are laid down on the opening room floor in accordance with these test results. The normal lay-down is 60 bales, 48 irrigated and 12 raingrown.

Highland Park's two opening lines each have three Saco-Lowell F-7 feeders with Saco-Lowell No. 15 openers. The stock fed from each of these lines goes to a cleaning line. Both cleaning lines contain the same type of machinery: vertical opener, No. 12 lattice opener, and two Centrif-Air Superior cleaners. After passing through the cleaning lines the stock comes together and is piped to the picker room. One man operates the opening room.

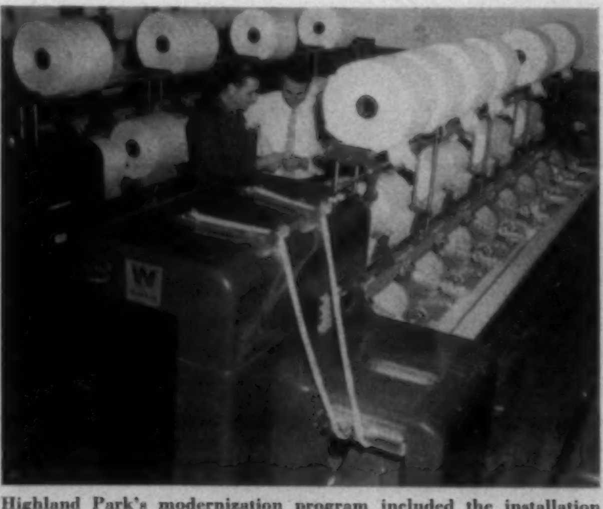
The mill has five Saco-Lowell F-4 one-process pickers. A relative humidity of 50% is maintained in the room. The pickers make a 13.7-ounce lap and produce 341 pounds per hour. The total lap weight, including the lap stick, is 55 pounds. A Saco-Lowell lap tester is used periodically on each picker to insure good quality work. One picker tender runs all pickers.

Card tenders pick up laps in the picker room and hang them on the cards. Three tenders operate all of the mill's 116 Whitin cards. The cards net 6½ pounds per hour, have Abington strippers and Southern States Equipment Co. ball bearing comb boxes. The mill reports these ball bearing boxes have stopped the oil leakage it used to have with regular boxes. Oiler labor savings have also been made. The card tenders do their own stripping, cleaning and lap laying. Cards are delivering a 55-grain sliver. They are vacuum stripped on a two-hour-and-40-minute cycle and are ground on a 240-hour cycle; 1,560 pounds between grinding. In addition to vacuum stripping, the cards are roller stripped once per week. Each card grinder grinds and sets up two cards per shift.

High Draft Before Combing

Preparatory drawing is done at Highland Park on 36 deliveries of Saco-Lowell 4 over 4 frames. The drawing runs with eight ends up and is delivered into 15x42-inch cans. The preparatory drawing sliver weighs 70 grains per

Thinking about modernizing? Here's the story of how Highland Park Mfg. Co. improved its quality, increased its package sizes and decreased manufacturing costs by modernizing its yarn manufacturing processes.



Highland Park's modernization program included the installation of 14 new Whitin Model J-6 combers. Two 55-grain slivers are delivered from the comber which nets 48 pounds per hour.

Highland Park has modernized all of its spinning spindles with the installation of the Whitin Clean Align Super Draft changeover drafting system.

yard. One man operates all 36 deliveries. The frames are block creeled. Preparatory drawing draft is about 6.2.

The company has installed three new Whitin Super Lappers. The can-back lappers have six drafting heads which are fed ten ends up. This makes a total feed of 60 ends of 70-grain sliver; or 4,200 grains per yard. The unit delivers a 1,000-grain lap. Its total draft is approximately 4.2. The frame is equipped with a Westinghouse pneumatic rack control and the total lap weight is 28 pounds. With regular rack control the mill used to get a lap weight of about 18 pounds. One man operates all three frames.

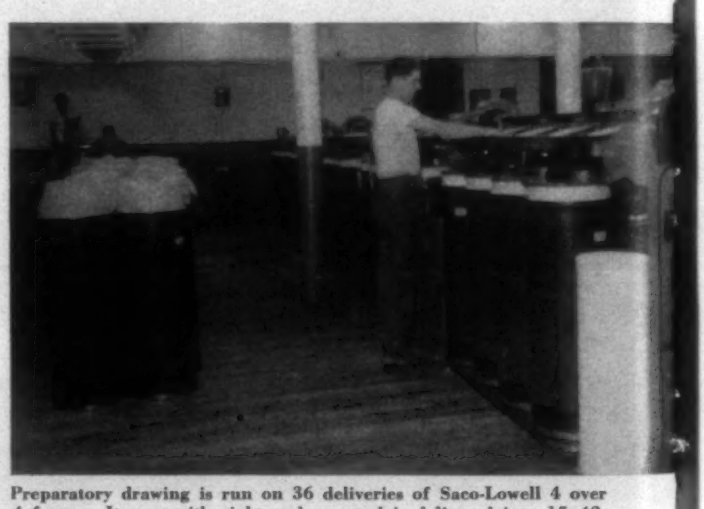
Draft before combing is $6.2 \times 4.2 = 26.0$. This excessive amount of drafting is done to "set-up" the short fibers for easy removal by the combers. With Highland Park's stock, this idea has certainly held true. About 16% noil was removed before the machinery change was made. Now, with high draft before combing, only about 14% noil is taken out and the yarns produced in spinning have better appearance and strength. A higher percentage of short fibers are taken out in the noil. The mill says that its waste man is unhappy because the staple length of the noil has been considerably reduced.

This new Whitin Super Lapper is running 70-grain sliver ten ends up. The unit delivers a 1,000-grain lap. Total lap weight, 28 pounds.

Combers

The modernization program has included the installation of 14 new Whitin Model J-6 combers. Two 55-grain slivers are delivered from the combers which net 48 pounds per hour. The frames are capable of running 51 pounds per hour at 100% efficiency. Combed sliver is delivered to two 16x42-inch cans. The cans have a capacity of 30 pounds and have spring bottoms. The frames are the first 16x42 bi-can combers made by Whitin. Proving the efficiency of the operation, all 14 combers (turning out about 670 pounds of combed stock per hour) are run by one tender.

Highland Park has 16 deliveries of new Whitin Model M finisher drawing. The frames run eight ends up and deliver 60-grain finished sliver. Pneumafil Corp. vacuum cleaning is used on the frames. The 16x42-inch cans used on the frames have a capacity of approximately 38 pounds. The front roll delivers sliver at the rate of 300 feet per minute. The mill says that the Model M is capable of running higher speeds, but 300 feet per minute is all that is needed to balance production. All deliveries of finisher drawing are run by one tender.

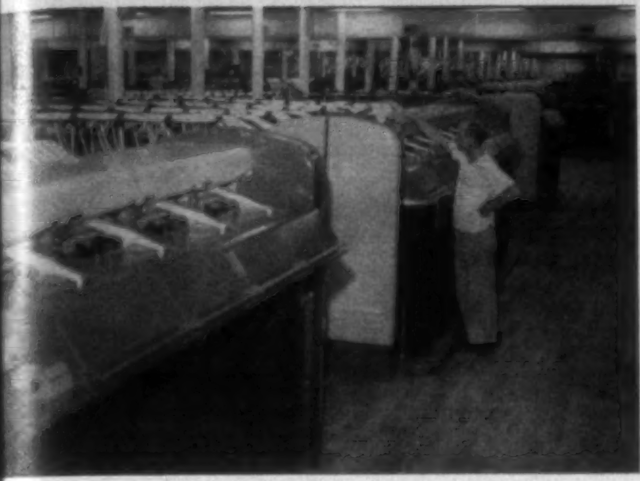


Preparatory drawing is run on 36 deliveries of Saco-Lowell 4 over 4 frames. It runs with eight ends up and is delivered into 15x42-inch cans.

New roving equipment installed during the modernization program consists of seven 96-spindle Whitin Hi-Pro long draft Model G-12 frames. These frames have ten-inch gauge and a 12x6½-inch package. The mill makes only one roving number. This count is 1.00 hank. It has a twist multiple of 1.26. The frames operate at 167 r.p.m. of 1⅛-inch front roll. Spindle speed is 750 r.p.m. The roving package weight is 71.4 ounces (almost 4½ pounds). The frames have Pneumafil ends-down collection systems and Pneumastop. Two frame tenders run all roving.

Spinning Modernization

The mill has modernized all of its spinning spindles with the installation of the Whitin Clean Align Super Draft changeover drafting system. Included in the change were 14,976 spindles with 3½-inch gauge and 10,800



This Whitin Model M finisher drawing runs with eight ends up and delivers 60-grain sliver at 280 feet per minute.

spindles with three-inch gauge. The frames are cleaned mechanically with Parks-Cramer C.T.G. cleaners. Vacuum ends-down collection systems and creels were built by Pneumafil. The creels hold four lines of bobbins over two.

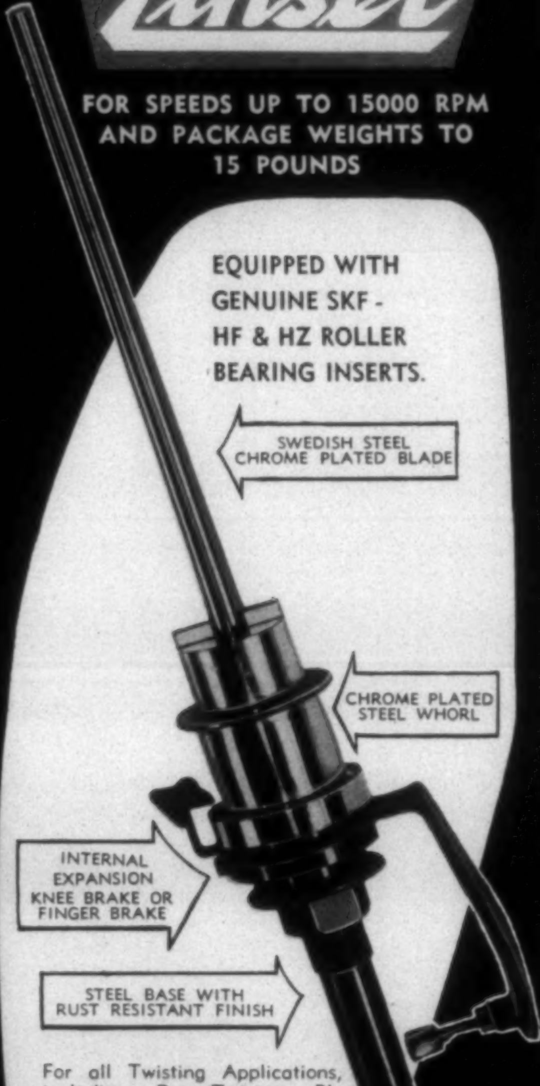
On 18 of the frames with three-inch gauge, the rings have been changed from 1⅜ inches to two inches in diameter. Filling quills had been used with these frames and they had a traverse of 6¾ inches. The new traverse is nine inches and yarn is spun on paper tubes. The frames operate at a front roll speed of 142 r.p.m., with a spindle speed of 11,732 on 37s yarn. Kluttz Lubri-Cased rings are used. The two-inch ring and nine-inch traverse gives a spinning package weight of 4½ ounces. Draft is 37. The ends-down per thousand spindle hours averages 14 to 15.

In the Highland Park method of operation, the spinner does all creeling, cleaning and keeping ends up. The spinner job load before the modernization, on 37s yarn with warp bobbin frames, was 2,184 spindles. After modernization the job load was increased to 4,494 spindles.

Dan River To Spend $4 Million

W. C. Daniel, assistant to the president of Dan River Mills, Danville, Va., has reported that his company expects to spend in excess of $4 million for new machinery and the modernization of existing machinery during the coming year. This, he said, is slightly less than depreciation on a consolidated basis and is in line with the company's policy of planned capital investment in order to secure operating economies and low-cost efficient operations and to maintain the plants in a modernized condition.

Pinpointing current improvements, Daniel asserted that over $2 million had been set aside to complete certain present programs and to implement others in the planning stage. These projects, he said, included the purchase and installation of 150 Draper shuttleless looms; the installation of four Cocker slashers in the slashing department of the company's sheeting division, which will make this department one of the most modern in the textile industry; the purchase of 15 new quill strippers, thus completing the modernization of the company's stripping operations; the air-conditioning of three spinning rooms; and the transfer of 108 Draper XP looms and 78 C-4 box looms from the former Rome plant of the Alabama Division to Danville.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WEAVING TENSIONS

By W. C. KNIGHT
School of Textile Technology
Alabama Polytechnic Institute
Auburn, Alabama

Increased warp tension causes decreased fabric width, increased sley and package, and increased yards per pound in greige fabrics. In a sanforized fabric, increased warp tension has an opposite effect in that width and yards per pound increase. In this article the author presents a detailed analysis of these and other results found in a warp tension study.

THE problem of correct tension of both the warp and filling during the weaving process has always been difficult. In most textile mills the emphasis placed on this question is usually in the direction of greater production or higher loom efficiency. Even with this approach, the actual adjustment of these important tensions has been left to the guesswork of the loomfixer.

Many mills do not use tensiometers or gages of any kind to make these adjustments. Even the most qualified technicians are unable to achieve uniformity of tension over the entire weave room or over a group of looms running the same type of fabric. This non-uniformity of tension could produce fabrics whose characteristics are not uniform. Some of the variations produced in this manner are far from negligible.

The characteristics of a fabric are due to a great extent to the strains present in the yarns that make up the fabric and the resultant strains caused by these yarns being interlaced. Fibers and yarns are placed in a state of stress from the beginning of the fiber processing through to the finished fabric. The resultant forces set up by these stresses can cause variations in crimp, elasticity and strength in the final fabric.

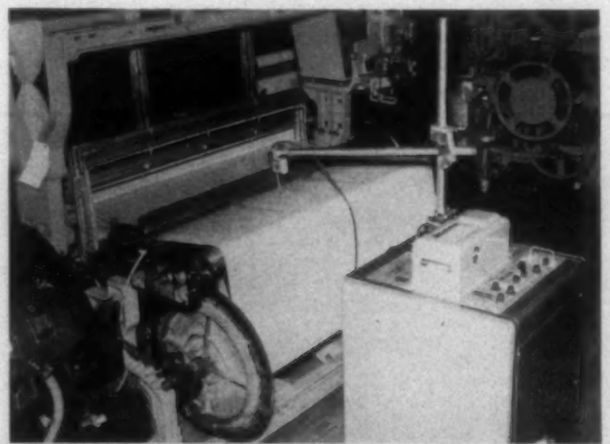
Reporting on "Properties of Plain Cotton Cloth," in the *Textile Research Journal*, Morton and Williamson say, "When the pick is first inserted in the shed it lies in practically a straight line and is either at zero tension or some small positive tension depending on shuttle drag. Under all ordinary conditions this tension is likely to be small because the shuttle has already come to rest before the shed has closed over the weft. By the time the beat-up has taken place, the shed has crossed over and the scissors-like action of the warp has caused the weft to depart from its straight alignment and to assume a share of the crimp which, in one or both sets of threads, cloth cannot be formed. In absence of any restraint, this crimping of the weft would cause the selvages to draw closer to one another; but as things are, the temples keep the cloth stretched out and in consequence the weft can crimp only by stretching. Hence, in the region between the temples, both warp and weft are in a state of tension, each endeavoring to straighten at the expense of the other."

In the same report it is brought out that the picks per inch are higher close to the fell of the cloth than they are after the cloth has been released by the temples. After the cloth has been removed from the loom and the tension removed from the warp, the picks per inch would increase slightly. This increase in pickage would be accompanied by an increase in crimp.

Tension Control

With modern looms the tension of the warp and filling can be accurately controlled. They are equipped with let-off motions which keep warp tension uniform at a predetermined rate. Filling tension can be controlled with the use of fur, bristles, nylon loops, or adjustable tensioning devices built into the shuttle.

It is obvious that different types of fabrics require different tensions. It has been shown that warps should be adjusted to the minimum tension for satisfactory weav-


Brush Tension Analyzer recording warp tension on the Draper XD loom used in the study.

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ing. Care should be taken so that the warps will not be over-tensioned.

When the yarns of a fabric are interlaced, they bend partially around one another. This bending is known as "crimp" and it tends to shorten a given length of yarn. The amount of this crimp is determined by the size of the yarns, the frequency of the interlacing and tension of the two systems at the time of interlacing. If one system is under loose tension and the other tight, it would be expected that the loose tension system would do more of the bending. If the systems are of equal tension and equal size, the crimp of both systems should be approximately equal. These facts support the belief that tensions at the time of interlacing affect the crimp of the yarns that make up the fabric.

Strength And Elongation

The strength and elongation of a fabric is determined not only by the strength of the yarns but also by their ability to rearrange themselves so as to equalize stress. It follows that the type of weave and the crimp available in yarns affects the strength and elongation.

An important characteristic of a fabric is its ability to shrink uniformly. To determine the effects of tensions in warp and filling on shrinkage is one of the main purposes of this study.

Equipment Used

The loom selected to produce test fabrics was a Draper Model XD, equipped with a 20-harness dobby. The principal reason this loom was chosen was because the let-off was a Bartlett. It was felt that uniformity of test conditions would be good using this type of let-off.

With extreme tension on a dobby loom, the harnesses tend to be lifted when the shed is down. To assure a positive action, double springs were used on all harness. Some other features and settings of the test equipment are: (1) take-up—intermittent; (2) sand roll covering—synthetic; (3) warp stop motion—electric; (4) filling stop motion—center fork; (5) shuttle eye—synthetic with adjustable pads; (6) whip roll setting—level top shed; (7) whip roll timing—¾″ before front center; (8) harness timing—2¼″ from fell; (9) loom speed—160 r.p.m.; and (10) width of loom—46″.

A shuttle with adjustable tensioning pads was selected to make easy duplication of filling tensions on repeated samples. This shuttle also makes for more uniform tension throughout any given sample.

Tension Analyzer

It is imperative that the test instrument used for the measurement of tension on the warp and filling in this study possess the greatest accuracy possible. The Brush Electronics Tension Analyzer was selected because tension could be more easily and accurately determined with it. The use of the Tension Analyzer permitted the duplication of conditions on repeating samples and assisted in setting the shed, drop wire bars and whip rolls.

Charts 1, 2 and 3 show the complete picking cycle. The charts show when the yarn is under the greatest strain. This is of great assistance in setting up the loom. Variation of tension due to the weave may also be studied using these charts. In this study there was a three-pick cycle to the repeat of the weave. The Tension Analyzer was also used in the adjustment of filling tension.

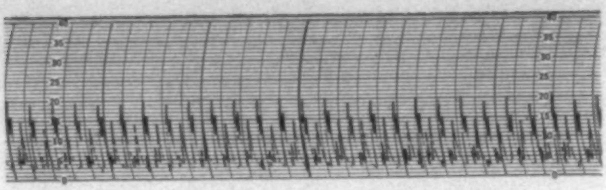


Fig. 1—40 grams maximum tension chart. Slow speed, two grams per chart line.

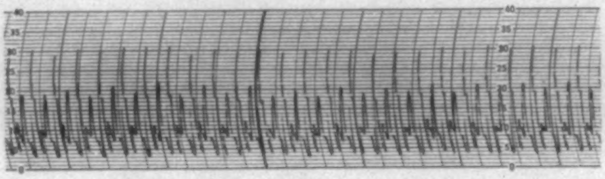


Fig. 2—60 grams maximum tension chart. Slow speed, two grams per chart line.

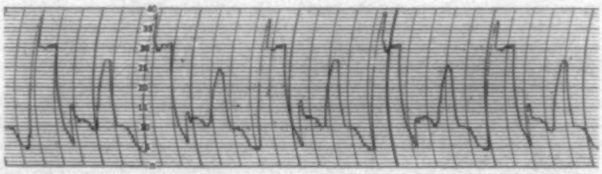


Fig. 3—80 grams maximum tension chart. Slow speed, two grams per chart line.

Quiller

The filling used in this study was wound on cones which made the quilling operation necessary. For this process a Whitin-Schweiter winder was selected because it has consistent winding tensions and will hold an adjusted tension exceptionally well. Two heads were adjusted and all filling used in the study was quilled on them. Maximum winding tension of 40 grams was used.

Strength and elongation tests on strips of the fabric were done on a Scott vertical tester. Tensilgrams were used for recording and later evaluation. The Brighton crimp tester was used to determine crimp. Other equipment used includes a pick glass, Smith-Drum washer, flat-bed press, templates and grain balances.

The warp and filling yarn used for the production of the test samples were obtained from a mill. The yarns were standard in the mill's production of 41″ 62x40 2.20 sports denim. The warp yarns had 12% size added. The yarn was 12.7s and of medium quality. Three levels of tension were established for the tests: warp—40, 60 and 80 grams; and filling—12, 24 and 36 grams. The fabrics made for the study were tested in both the greige and sanforized state. A total of nine samples were woven with each of the three filling tensions in one of the warp tensions. A duplicate set of samples were woven for use in sanforized fabric tests.

Prior to starting the test run, the loom was adjusted with the use of the Brush Tension Analyzer. Some of the adjustments in which the analyzer was useful were the uniformity of the Bartlett let-off, height of drop wire bars, whip roll height and timing, and harness opening and timing. It was found that very little variation in tension from end to end across the width of the warp existed.

Test Conclusions

The results of the tests on fabrics woven at different tensions show that yarn tensioning during weaving definitely affects the characteristics of the fabric in the greige and in the sanforized state. These tensions contribute to the non-uniformity of fabrics in any given type of fabric. Their effects are widespread and not associated with just one characteristic.

The test results show that it would be impossible to expect to finish fabrics to the same width, with the same residual shrinkage and with a uniform number of yards per pound unless the conditions under which these fabrics were produced were uniform from loom to loom.

The effects of weaving tensions found on greige fabrics as the tension on the warp increased are: (1) the width decreases; (2) the construction increases both warp and filling-wise; (3) the weight per yard decreases and the yards per pound increase; (4) the warp crimp decreases and the shrinkage filling-wise decreases; and (6) the breaking strength of the fabric is decreased both warp and filling-wise.

The effects of weaving tensions found on sanforized fabrics as the tension on the warp increased are: (1) the sanforized width is increased; (2) the sley is slightly decreased and the picks per inch increases; (3) the weight per yard increases and the yards per pound decreases; (4) the warp crimp is increased and the filling crimp is decreased; (5) the shrinkage in the direction of the warp is increased and seems to have little effect on the fabric filling-wise; and (6) the breaking strength seems to be increased both warp and filling-wise.

In both greige and sanforized fabric, the effects of increasing the tension on the filling seem to be slight.

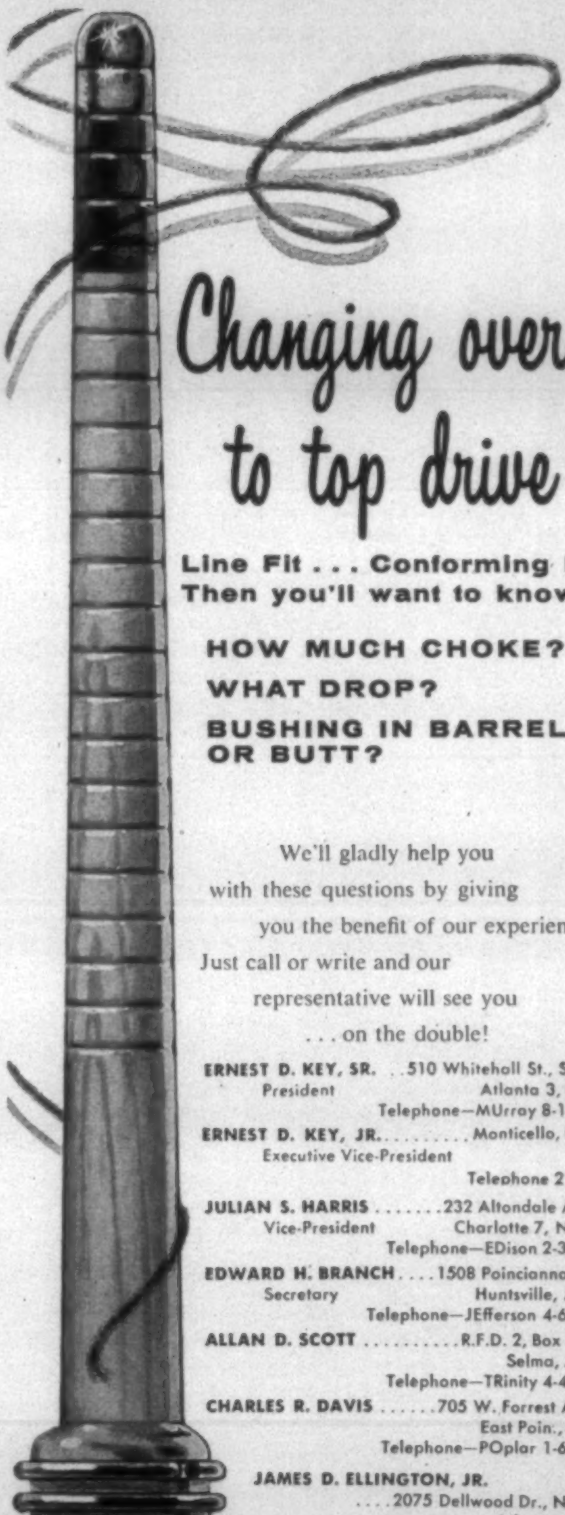
It is quite interesting to note that some of the effects are reversed in the sanforized fabric from those in the greige. This seems to be due to the additional strain the yarns are under in the fabric. These strains are released up to a point upon sanforization and in some cases actually are placed into the yarns in reverse.

This study covered one fabric. There is every reason to believe that different results might be obtained in fabrics woven other than the sports denim three-harness twill. Variations in yarn counts and heavy construction would certainly have varying effects on fabric characteristics.

Tire Cord And Fabric Production Up

Production of tire cord and tire fabric during the fourth quarter of 1958 was 107,532 thousand pounds. This was 17% above the previous quarter and 7% above the fourth quarter 1957 level. The output of rayon tire cord and tire cord fabric increased 20% from the previous quarter's level to 70,607 thousand pounds.

During the same period the production of nylon tire cord and tire cord fabric increased 7% to 25,389 thousand pounds, while the production of cotton tire cord and tire cord fabric (excluding Chafer fabrics) decreased 21%. Stocks of tire cord and tire cord fabrics on January 3 were 38,187 thousand pounds, or 1% above the September 27, 1958 level but 14% less than the stocks on December 28, 1957.



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The LOOMFIXER And His Job

Part Four

By WILMER WESTBROOK

IT is necessary to align the various shafts and their bearings when a loom is assembled. Some alignment is also necessary from time to time in routine repair and maintenance. As a rule, loom bearings are not made to as close tolerances as those of most machines and the job of aligning them is fairly simple.

However, the shafts and bearings should be aligned as precisely as possible to prevent friction and wear. Misalignment can cause undue wear of parts, off-quality cloth, machine downtime and much extra work for the weaver and the loomfixer.

To align the split-type camshaft bearings, bolt the bottom part of the bearings to the loom sides. Place the camshaft in the bearings and see if it fits exactly in both bearings. Put some grease on the shaft and turn it a half revolution in the bearings. The grease that is retained on the shaft will show where it is not contacting the surface of the bearings.

Remove the bearings, one at a time, and file the appropriate lugs to bring the bearings in line with the shaft. When the bearings have been aligned as closely as possible by this method, place the cap on the bearings and pull the shaft out of one of them. Push the shaft up against the empty bearing and see if it centers it. If it is not exactly centered, file the lugs on the opposite bearing to align it.

Repeat this procedure with both bearings until the shaft will slide back and forth through them and can be revolved easily by hand while resting in both bearings.

The same method can be used to align other loom shafts and bearings. An aligning shaft must be used instead of the original part for the crankshaft and the take-up roll. The loomfixer should keep aligning shafts at his work bench or they can be kept in a centrally located rack for a number of fixers to use.

Remember that any filing that is done to the cam shaft or crankshaft bearings will alter the distance between the two shafts and will affect the meshing of the gears attached to these shafts. Too much filing on the bottom lugs of the bearings can result in the entire job having to be redone.

If the lugs on the bearings are too short or have to be built up to properly mesh the gears it is best to soft-weld or braze new lugs instead of using shims to raise the bearings. Shims will often shift positions or will slip out of place.

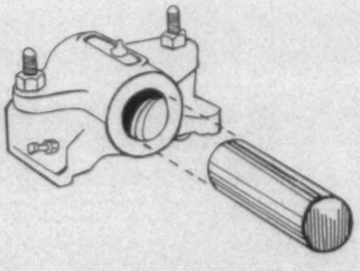


Fig. 1—With the shaft in one bearing, pull it up near the other one and see if it centers it. If it is off-center the lugs on the opposite bearing should be filed.

Many loomfixers fit shafts and bearings haphazardly and let them wear into alignment. Eventually the shaft will turn freely in the bearings but it will be worn or will wear the bearings unevenly and will cause a lot of undue strain on the loom in the meantime.

Shafts should have hubs or collars that fit snugly against the edges of the bearings to prevent side movement. Any side movement of the cam shaft or crank shaft will cause uneven pickage and will often result in damage to the loom or to the cloth.

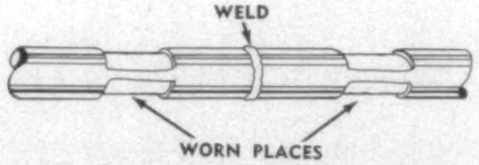


Fig. 2—A worn rocker shaft can be made good as new by sawing it in half and welding the worn ends together.

The ends of all shafts should be beveled. The beveled ends make it easier to align the shafts to the bearings, to place gears and cams on the shafts, and prevent personal injury that is sometimes caused by the sharp edge or a burr on the end of a revolving shaft.

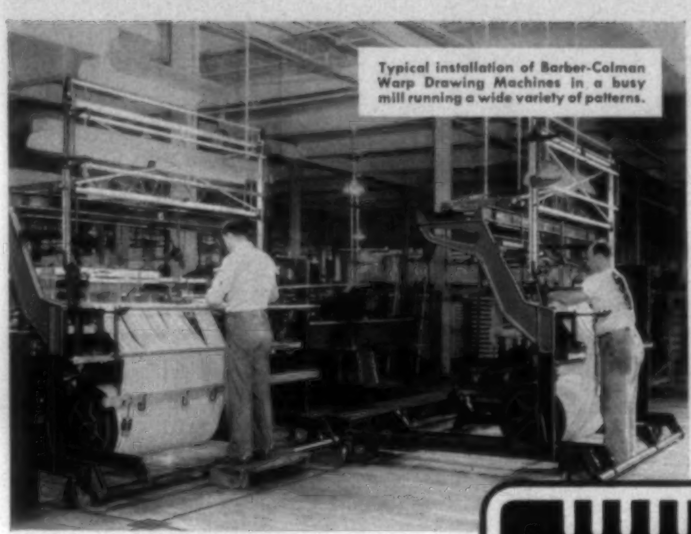
Worn parts of shafts can be built up by brazing, welding or by spray metallizing and then sized on a metal-cutting lathe. It is usually cheaper to use a new cam shaft, rocker shaft, or other plain shaft rather than rebuild the old one. However, a saving can sometimes be made in rocker shafts by sawing them in the center and welding the two outer ends together. By this method the worn parts are in the center of the shaft and the parts of the shaft that fit into the bearings and swords are as good as new.

When a shaft must be replaced a lot of loom downtime is involved. To reduce this downtime to a minimum some spare shafts should be kept on hand. A centrally located rack in the weave room should hold one or more of each kind of shaft ready for use. When a loomfixer uses one of the shafts he should have another one cut or rebuilt as soon as he has the loom back in operation.

Small shafts such as auxiliary cam shafts, worm take-up shafts, and let-off shafts can be kept in the stock room or at the loomfixer's work bench. Crank shafts should be completely assembled with gear, clutch plate, hand wheel and brake wheel in place.

Whether loom shafts revolve in open, closed, or anti-friction bearings they should be properly lubricated. The metal-to-metal contact will wear quickly and will generate enough heat to cause a fire if some type of lubricant is not used. The type of bearing will dictate the kind of lubricant that is needed.

Good, free-running shafts mean much to the over-all performance of a loom. The loomfixer should periodically check the shafts on all his looms and keep them in good condition.



Typical installation of Barber-Colman Warp Drawing Machines in a busy mill running a wide variety of patterns.

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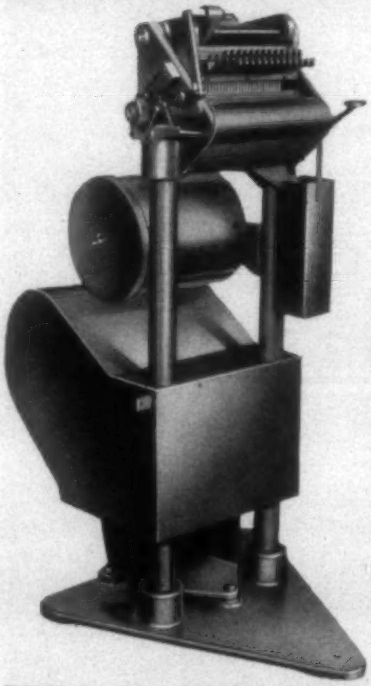
WARP DRAWING MACHINES

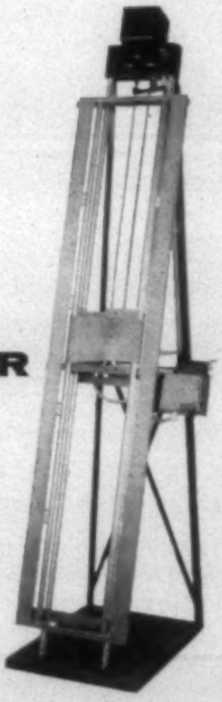


POWER PATTERN PUNCH

The Power Pattern Punch is used to cut the sheet metal pattern which controls the selection of the correct heddle, drop wire, and reed dent, and the operation of the warp rods. This pattern chain is punched from the drawing-in draft prepared from the required weaving design. The machine, which is powered by a motor in the lower housing, is operated by setting keys for each line in the draft and then punching out each complete line by releasing one lever. It will punch paper, as well as metal, patterns.

HEDDLE COUNTER

This motor-operated unit will rapidly and accurately count off a selected number of heddles in a given frame, thus permitting excess heddles to be removed. It also checks the heddles to make sure that alternate key holes are correctly lined up. If it finds a heddle which is wrongly placed, the machine stops automatically, thus eliminating a possibility of mechanical damage to the heddles in the Warp Drawing Machine.



B-C MACHINES CAN USE PAPER PATTERNS

To answer a frequently-asked question: Barber-Colman Warp Drawing Machines CAN perform and HAVE performed their functions just as well with paper patterns as with metal patterns. However, due to lack of durability, paper patterns are recommended only for short runs.

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QUALITY CONTROL

in the finishing plant

By **ERNEST G. FREUDENTHAL**
Werthan Bag Corp.
Nashville, Tenn.

IN establishing a quality control program in a finishing plant, two facts stand out which are of such importance that they can become the nucleus of the entire program. The first of these is the fact that virtually every operator is or should be a quality inspector. Because of this fact the operator can be involved directly with the quality control program and should be made to feel as part thereof. The second important condition lies in the fortunate fact that 100% inspection is feasible not only at the final inspection point but also at various intermediate processes.

In determining the adaptability of various quality control techniques to finishing operations, we found it expedient to consider each process as an isolated unit and to determine which statistical concepts or other method would be most effective. For a number of reasons we decided to keep the initial installation of statistical reports as simple as possible. One of these reasons was our aim to familiarize the operating personnel very gradually with statistical concepts and thus to gain their interest and co-operation. To do otherwise would have meant to alienate them by the use of data with which they were not familiar and which would have been meaningless to them. Another reason was that we were not entirely sure which of the more refined techniques would ultimately contribute to better controls. We decided to build our program on a simple, easily comprehensible base and postpone a more elaborate superstructure until such time as we had a chance to evaluate the results of our initial installation. Each new step in establishing the program was carefully prepared by selling all levels of supervision and operating personnel on its desirability, prior to actual installment.

Because virtually every operator can be a quality inspector, and 100% inspection is feasible, a quality control program can be successfully established in a finishing plant. This abstract of a paper given before the annual meeting of the American Society for Quality Control, held in January in Charlotte, N. C., describes one mill's experience in establishing such a program.

Continuous Bleach Range

The first process in the finishing plant is bleaching. In our particular case most of the cloth is bleached on a single stage continuous range. It is extremely important to maintain the content of multiple saturators in the range at the proper level of alkalinity. Too weak a solution would result in insufficient bleaching, while a solution with an excessive pH might result in permanent weakening of the fabric. At this point quality control methods have to be supplemented by chemical testing.

The level of alkalinity can be determined usually by simple titration tests which are performed by operating personnel. This is done at frequent intervals such as every 15 or 20 minutes. The results of these tests are posted on a report. Definite upper and lower tolerance limits are established. The tester notes on this report the reasons for any out-of-control test result as well as the corrective action taken. However, it is essential for some person other than the regulator operator to make an occasional titration test at irregular intervals in order to check on the accuracy of the operator's report. In our mill this is done by the head of the chemical laboratory.

The daily reports are analyzed and the following data is tabulated and plotted on charts:

(1) highest test result

(2) lowest test result

(3) mean test result

(4) total range

(5) number of test results per day falling outside of tolerance limits

(6) percent of test results falling outside of tolerance limits.

This data gives us the familiar x-bar, r-bar, and control charts. These are furnished to line supervision as well as to the plant manager.

An occasional residual peroxide test is conducted in the second bleach range J-box to determine the efficiency of the bleaching action. This test is performed by the chief chemist who furnishes his results to the quality control department.

After the cloth leaves the bleaching range it is stored in a bin; later it is pulled to the drying ranges. Formerly each dryer operator made a quantitative report giving the total yards of cloth dried on his shift. Now as part of the quality control program two physical characteristics are measured and recorded: (1) the width of the cloth is measured and shown on the production report; and (2) the linear yardage of each individual roll is reported and compared with the original greige goods yardage from the cloth room, and with the yardage reported at the singer as the cloth enters the bleaching range.

The data in these reports is analyzed by the line supervisors as well as by the quality control department personnel. There is a relationship between these two measurements. For instance, if excessive tension exists somewhere in the system, it will result in an undue amount of stretch. This will be indicated by too great an increase in linear yards. This very same excessive tension might be the cause of deficiencies in cloth widths.

The results of these length and width measurements are tabulated according to constructions and type of fabric. After a considerable amount of data had been accumulated, standard tolerances were established for each style. If these standards are exceeded, the need for corrective action is indicated and line supervision or, at their request the engineering department, will seek to determine the cause and remedy the situation.

Some of the cloth run at our plant is purchased from other greige mills. This creates the need for other procedures such as acceptance sampling. The stretch and shrinkage data which are collected at the drying ranges are also utilized to compare the performance of cloth from one mill with goods of identical construction from another mill.

Printing Department

The role of line supervisors and operators in maintaining proper quality standards is perhaps nowhere more important than in the printing department. Here one of the most important functions is the proper matching, preparation and mixing of colors. This is the responsibility of the colorist and his assistants who report directly to the overseer of the department. After a shade meets the approval of the supervisor a short sample batch of each pattern is run and submitted to the plant manager as well as to the designing artist. These samples must be approved by the plant manager before production of any particular pattern can proceed. As anyone who is familiar with printing and color mixing knows, a great deal of modification is sometimes required before the exact desired shade is obtained.

Inasmuch as this procedure obviously requires a great deal of experience on the part of those who are responsible for making the final decisions, this phase of the program must necessarily remain in the hands of the operating personnel. However, one member of the quality control department maintains frequent contact with the colorist and sometimes collaborates in making these decisions. He is now undergoing the necessary training to enable him to assume greater responsibility in this field at a future date.

We are now studying the entire printing operation for the purpose of determining the type of defects originating

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at this source. It is contemplated to record the quality performance of each printing machine and eventually to furnish each printer a weekly quality report covering his entire production. This type of report will require the collaboration of the folding room, a department to which we shall refer later.

After printing, the rapidogen type colors have to go through an ageing process in order to be fully developed. No quality control measures have been taken in the case of this operation as yet. However, various possibilities present themselves and are under consideration if they are deemed necessary. One of these is the determination of the proper acidity of the ageing solution. This can be accomplished by means of chemical tests.

Subsequent to printing and ageing the cloth is run through a soaper, a washer and a dryer. This is for the purpose of removing all excess color and acid. In the case of prints with a white background it is important that the proper degree of brightness is achieved. The primary responsibility for this rests with the supervision of the department. However, here again a representative of the quality control department collaborates in making the necressary checks and comparisons with previously approved sample swatches.

In addition we have initiated a daily and weekly report giving the amount of materials used in this operation, such as detergents, bleaching agents, etc. Another weekly report shows the amount of materials used per yard of cloth processed for each type of fabric. One beneficial by-product of this report is better cost control and analysis. Moreover, the use of these reports have made the operating personnel and the supervisors more conscious of the necessity to use uniform quantities of materials for lots of the same type. As a result better standardization of cost as well as of quality performance has been achieved.

In soaping and washing as well as in subsequent processes, such as tenter framing and sanforizing, the operating personnel play an important role in checking the quality of the cloth not only as it leaves their operation but also the state in which they receive it. In this manner it is frequently possible to isolate the cause of any difficulties by pinpointing their source before a great deal of damage is done. This procedure was not an innovation brought about by the establishment of a quality control program. However, this practice was sometimes not strictly enforced and the existence of a quality conscious attitude has made everyone more alert regarding the condition of fabrics as they enter and leave the various processes.

Tensile Strength

Inasmuch as bags are one of the major final products of our company, considerations of tensile strength have always been given the utmost priority. For this reason a large number of samples are taken from each of those lots which are designated to be manufactured into bags and are tested for tensile strength. Test results are carefully checked against minimum tolerances. If the tensile strength of any lot is found to be deficient remedial action is initiated immediately.

Furthermore any lot with sub-standard strength will be rejected for the particular weight capacity bag for which it was intended and will be downgraded to a lighter weight bag for which it is strong enough. The standards and tolerances used in these determinations are based partly on accepted trade practice such as "Worth Street Rules" and partly on a body of experience which we have accumulated regarding various sizes and capacities of bags for different commodities.

Until recent years tensile strength was not considered a particularly important criterion for the performance of print cloth. However, with the development of wash-and-wear fabrics, tensile strength has become an important consideration in this field also. Wash-and-wear qualities and characteristics are imparted to the cloth by means of impregnating it with resins and subsequent curing under extremely high temperatures. This treatment will result in wrinkle resistant qualities of the fabrics. At the same time it will result in a substantial deterioration of the original tensile strength of the cloth. In some cases this loss of tensile strength may be as high as 50%.

As a result, wash-and-wear fabrics may be so weak as to be seriously damaged as far as subsequent manufacturing processes are concerned and their utility to the ultimate consumer may be permanently impaired. Hence, the maintenance of tensile strength has become an important consideration. This can be accomplished by two methods: (1) guard against overcuring; and (2) the creation of specially designed greige goods which have higher than normal tensile strength in the filling direction. In most cases the warp tensile is higher than that of the filling and is usually not critical in considerations of this type. The quality control department participates in this particular function by designing greige fabrics of suitable strength and by advising management and supplying the necessary information by which management may be guided in its greige goods purchases and in making policy for our own weaving operations.

Wash-And-Wear

There are three types of tests performed for wash-and-wear fabrics:

(1) wrinkle recovery
(2) tensile strength
(3) tearing resistance

The wrinkle recovery test consists of creasing a swatch of fabric for five minutes under a 1½ pound weight, and then measuring the angle of recovery on a specially designed protractor. It may be found that the fabric has a very high angle of recovery and therefore it is very wrinkle resistant but that the tensile strength or the tearing resistance are too low. All three types of test results are carefully checked against minimum standard requirements.

In this particular area the quality control efforts in the plant are closely co-ordinated with the work of the physical testing laboratory. As soon as the tests have been completed reports are typed and sent to the plant manager, the appropriate overseer and the foreman of the folding and inspection department. The latter receives a copy of all reports in order to keep him informed on the status of each lot before it reaches him. This aids him in planning his work and will prevent any defective lot from being inspected and packed for shipment to the customer. In the case of below standard test results all those concerned are notified immediately by telephone by the laboratory personnel prior to the issuance of the typed report. This results in the immediate initiation of remedial action.

Certain types of fabrics are finished with clay, talc or starch mixtures, which in some cases contain synthetic additives. The laboratory receives cloth samples of every batch. These samples are desized and the percent non-cotton content is calculated. In this manner variations from one lot to another are kept to a minimum. Furthermore, the accurate determination of size content is used for the purpose of cost control.

100% Inspection

As previously stated, textile manufacturing is one of the few industries which is so fortunate as to be able to have 100% inspection. The inspectors in the folding and packing department are the final administrators of the quality control program. Of course if a particular defect reaches this terminal point the damage is done. However, early detection of defects in advance lots in the folding room can result in corrective action if the bulk of the particular lot or batch is still in process.

The folding room inspection results in reports which give the amount of seconds, remnants and short pieces for each lot in yards and on a percentage basis. The same report gives the principle reasons for the defective cloth. These figures are calculated not only for each individual lot, style and pattern but are also tabulated and reported for the entire production on a weekly basis.

In addition to these benefits, the 100% inspection program will result, at least theoretically, in preventing any defective cloth from reaching the consumer. This leads us into a discussion of the state of the greige goods which are converted in a finishing plant. Obviously in order to be able to produce finished goods of high quality it is essential that the cloth which is received from the greige mill is equally acceptable as far as quality and physical characteristics are concerned.

In our particular case some of the goods which are converted are furnished by our own cotton mill. In addition, a good proportion of the cloth required by our finishing plant is furnished by other mills. In the case of our own greige goods 100% inspection is practiced. Any defects are handled through the cotton mill's quality control system. This includes the immediate notification of weave room supervisors, the daily computation and recording of the amount of remnants and short pieces by construction, the calculation of cloth weights, daily moisture content tests, etc.

Acceptance Sampling System

In the case of purchased greige goods an acceptance sampling system is used. This includes the examination of several bolts taken from different bales in each shipment, for weaving defects, as well as general appearance of the face of the cloth. Neps, reed marks, evenness of the yarn, are considered as important criteria. In addition samples are submitted to the laboratory where they are subjected to physical tests for width, thread count and tensile strength. Before any lot can be sewn and sent to the bleachery it must be approved by the quality control department.

Obviously a program such as we have undertaken can never be fully completed and will always have to remain flexible in order to cope with new procedures in the manufacturing processes and with modern advances in control techniques.

Aside from this fact, however, we feel that at this point

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we have perhaps reached the half-way mark of our initial installation. This might be a good time for an evaluation of our efforts in terms of their value to the company. The results which we have achieved thus far and which we hope to achieve in the future have indeed been worth the effort expended. A number of corollary benefits were obtained which are not immediately related to quality control. Omitting these from our consideration we can divide the direct benefits of our program into two areas: personnel and materials.

Quality Consciousness

In the area of personnel relations we have been able to instill a certain amount of quality consciousness into line supervisors and operators. There was, of course, some initial resistance and this still occurs from time to time as our program is extended to additional processes. However, such resistance is becoming less pronounced as our program finds more and more acceptance.

One of the first reports which we instituted in the initial stages of our program was a weekly quality performance report. This report has shown a steady decline in seconds, remnants, short pieces, rags and other sub-standard and waste materials. This report, more than anything else, has provided us with a measure to evaluate the results of our program. Judging from the information which it yields our efforts have not been in vain.

In conclusion, we must stress again the importance of obtaining the proper co-operation of those whose job it is to control and influence the quality and quantity of production. The mere installation and use of statistical devices and reports, important and helpful though they may be, cannot by itself accomplish the desired result. A successful quality control program in a textile finishing plant, as anywhere else, must consist of a proper blend of managements' attitude and collaboration, the technical and administrative work of conducting the program, and finally a propensity for co-operation on the part of line personnel.

American Viscose Announces Aid-To-Education

Seventy-one colleges and universities will benefit from the American Viscose Corp. aid-to-education program next year. Commenting on plans for the 1959-60 academic year, Henry H. Bitler, vice-president, said, "American Viscose, a producer of man-made fibers and films, is one of the chemical-process industries. Accordingly, we recognize and appreciate the value of scientific education. As in previous years," he stated, "scholarships, fellowships, grants-in-aid, and assistance through educational foundations are included in our program."

American Viscose Corp.'s program is designed to aid these educational institutions in their over-all programs and encourage the study of science and engineering. The recipients of the scholarships and fellowships are selected by the schools on the basis of scholastic merit and need. American Viscose takes no part in the selection, nor are the students under any obligation to the corporation.

Scholarships valued at $500 have been established for undergraduates majoring in textiles. Fellowships for graduate work, from $2,000 to $2,800, have been established in chemistry, chemical engineering and cellulose chemistry.

Maintenance, Engineering & Handling

Overload Protection Of A. C. Motors

By C. R. WHITNEY
Square D Co.
Milwaukee, Wisc.

THE a.c. squirrel cage motor is the most rugged, simple and widely used rotating electrical component in use today. It provides the "brawn power" of industry. The squirrel cage motor, however, has to depend on another component for brain power. That component is the motor controller.

A motor controller has four basic functions: (1) start the motor; (2) stop the motor; (3) protect the operator; and (4) protect the motor. We are concerned herein with function No. 4—the protection of the motor—commonly referred to as overload protection.

Motor overload protection should be differentiated from motor branch circuit overcurrent protection since they provide two separate and distinct functions. The motor branch circuit overcurrent protective device is required to protect the motor branch circuit conductors, the motor control apparatus, and the motor itself from overcurrents due to shorts or grounds. The words "due to shorts or grounds" should be emphasized, because there is a tendency for people to confuse the relative functions to be performed by the motor branch circuit overcurrent protective device and the motor running overcurrent protective device.

The motor branch circuit is normally made up of a motor, motor branch circuit conductors, a disconnecting means, motor branch circuit overcurrent protective device, a motor controller, and the motor running overcurrent protection. Motor branch circuit overcurrent protection may be provided with either fuses or circuit breakers. These devices are specifically designed to quickly "clear" branch circuits in the event of a short in the circuit wiring, the motor, or in the starter. The purpose, of course, is to confine the damage to the point or origin of the short circuit.

The branch circuit overcurrent protective device, therefore, protects everything from the disconnecting means down to the motor (including the motor controller) from accidental grounds and shorts. The motor running overcurrent protective device (overload relay), however, is designed to detect overloading of the motor, be it ever so slight, and remove the motor from the line when it is heated to a point which may damage its insulation.

Why Protection Needed

Why is motor running overcurrent protection necessary? The simple answer is that a motor does not know its own strength and much like some individuals you undoubtedly know, it will keep trying and trying until it finally burns itself out. Motors differ from other types of electrical loads in that the current drawn from the line is not fixed, but varies with the mechanical load. The greater the mechanical load, the greater the power consumption of the motor, and consequently the greater the current drawn in its windings. All motors have definite limitations and when subjected to conditions beyond these limitations the temperatures developed will cause damage. This might happen in the form of a fire if the temperature gets extremely high but in any case it will reduce the life of the motor due to gradual deterioration of the insulation. Either condition will result in a burned out motor, it's just a question of when.

Since they are designed to operate on entirely different parameters, any short circuit protection received from the overload relays, or any motor overload protection received from the fuse or circuit breaker should be regarded as strictly coincidental. It can hardly be counted upon to provide the completely safe installation.

The National Board of Fire Underwriters (Underwriters' Laboratories Inc.) requires that the motor (1) ultimately trip at 100% of its rated current in an ambient temperature of 40° C.; (2) trip within eight minutes at 200% of its rated current; and (3) trip in 30 seconds at 600% of its rated current. This standard establishes the design of an overload relay.

N.E.C. Requirements

The application of the overload relay is specified in the National Electric Code which requires that for motors of more than 1-h.p., the overload relay shall be rated or set at not more than 125% of the motor full load current rating for motors marked to have a temperature rise not over 40° C. The overcurrent protective device must be rated or set at not more than 115% of the motor full load current when applied to any other motor.

The more commonly encountered causes of motor overloads are: (1) excessive mechanical load; (2) low line voltage; (3) frequent starting and stopping of equipment

The squirrel cage motor is the most rugged, simple and widely used rotating electrical component in use in industry. However, because the current drawn from the line varies depending on the mechanical load, the motor can burn itself out trying to do more work than it has capacity. This article describes the means of overload protection for a.c. motors. It was first delivered before the textile conference of the American Institute of Electrical Engineers held October 30-31 at North Carolina State College, Raleigh.

not rated for jogging service; (4) excessive duty cycle on equipment with intermittent duty rating; (5) single phase operation of the polyphase motor; and (6) unbalanced three-phase voltage. The overload relay must be capable of protecting the motor from any and all of these conditions. At the same time it must permit normal starting of the motor and full utilization of the motor capacity.

In general, the capacity of a given electric motor to do work without injury to itself is determined by the amount of internal heat it is able to dissipate. This heat is produced by the motor core losses (hysteresis and eddy current), bearing friction, and the resistance offered by the windings, or "copper loss." The combined effect of these losses is to cause the motor temperature to rise until the quantity of heat conducted away equals the heat produced within the motor.

Since the motor insulation is more susceptible to deterioration from high temperatures than any other material used in its construction, it becomes necessary for the motor manufacturer to establish certain limits of operating temperature in order to conserve the insulation life. Obviously, there is no value of temperature immediately above which the motor windings would be seriously damaged or immediately below which they would last indefinitely.

Various overload conditions have different effects on the motor.

(1) Excessive mechanical load—Since the power output of the motor is a function of line voltage and the current in the motor windings ($P = EI \cos$ theta) it follows that an increase in the power required must be facilitated by an increase in line voltage or motor current. Line voltage is not variable so the motor current increases, thereby increasing the motor copper loss which manifests itself in the form of heat, increasing the motor temperature.

(2) Low line voltage—The effect here is similar to the above. In this case P (power) remains constant while E (voltage) decreases, necessitating an increase in I (current) to balance the power equation.

(3) Frequent starting of equipment not rated for jogging—During starting, two conditions exist which tend to overheat the motor windings; (a) the current drawn by the motor is appreciably higher than at full load, and (b) the self-cooling ability of the motor is decreased because the rotor is not moving at full speed. The result, of course, is an increase in motor temperature. Where the application requires jogging, the motor should be de-rated to a point where the temperature increase will not exceed the manufacturers' limit. Standard de-rating factors have been established by N.E.M.A.

(4) Excessive duty cycle on equipment with intermittent duty rating—On certain applications it is possible to make a more economical selection of components by taking into account the natural cooling which takes place when the equipment is not operating. This is called an intermittent duty rating. It follows that if the motor is used at its intermittent rating on a continuous duty application, the "off time cooling" effect is lost, and the motor overheats.

(5) Single phase operation of the polyphase motor—If the motor is running lightly loaded, it may continue to operate single phase. In this case the current distribution in the motor winding would be unequal and one or more of the windings would be overloaded. If the motor is heavily loaded, it is likely to "grind to a halt" in which case the winding would draw very high "locked rotor" currents. This condition is further aggravated by loss of self cooling from rotor rotation.

(6) Unbalanced three-phase voltage—It is very difficult to express this phenomena without vector analysis. Suffice it to say that the power transmitted across the air gap by each phase can be expressed as a product of the in phase components of current and voltage. Lack of balance of the phase voltages will, therefore, cause an unbalance in the phase currents. If one phase current is reduced, another must be increased to compensate, resulting in overheating of the high current winding.

Relay Design

Since the motor core and bearing losses are relatively constant, and are also a low percentage of the total losses, it follows that a measure of the electrical current which produces the copper loss is also a proportionate measure of the motor temperature under normal conditions of ventilation. This principle is the basis for the design of current operated overload relays, which constitute by far a majority of the running overcurrent protective devices manufactured today.

Current operated overload relays are of two general types and derive their names from the method by which each utilizes the motor current to perform its protective function. These types are: *Thermal* overload relays and *magnetic* overload relays. Basically, the problem of thermal relay design is to create a device with a thermal capacity resembling the heat-temperature characteristics of the motor and thereby duplicate a proportionate value of the actual motor temperature.

Two general designs of the thermal overload relay are available, the *melting alloy* type and the *bimetallic* type. Relay contacts are opened by means of a preset, spring operated mechanism which is released when the alloy melts. Resetting of the contacts can be accomplished after the alloy solidifies and the ratchet wheel is no longer free to rotate.

Actuation of the bimetallic relay contact is accomplished by the outward expansion of the U-shaped bimetallic strip. Heat is supplied from a current calibrated heater element. The heater element follows the inside contour of the bimetallic strip to facilitate uniform heating throughout the bimetal. Thermal overload relays are used more extensively than magnetic type overload relays because the tripping characteristic of the thermal device offers adequate protection during conditions of unusual motor overload at a minimum of initial cost and maintenance expense. Reliability in operation, simplicity of design, adaptability—both physically and electrically to standard contactors—and convenience in selecting and installing the interchangeable heater elements are other factors that contribute to the general use of the thermal type relay.

Trip Time Modification

The magnetic overload relay, however, has a definite place in our lives in that it allows on-the-job modification of the trip time characteristic. Its trip time characteristic is not appreciably affected by ambient temperatures. It can be made to trip instantaneously on a specific current value.

There are applications where the magnetic overload relay s properly applied.

The standard overload relays discussed up to now will not protect some special motors designed for specific applications. There are three specific applications for which special relays are available: (1) hermetically sealed compressor motors for refrigeration and air conditioning; (2) motors applied on centrifugal loads with long accelerating periods (extractors); and (3) applications where several motors and controllers are connected to a single branch circuit per N.E.C., Paragraph 4343. (Group fusing).

Hermetically sealed compressor motors are cooled artificially by the coolant in the refrigeration process. Because of this forced cooling it is possible to work motors at 125% to 140% of their normal rated capacity. They still, however, have the same locked rotor current so that the ratio between locked rotor and running current is appreciably decreased. The overload capacity of the motor is decreased accordingly. This condition is further aggravated in the event of a stalled condition where the coolant would no longer be circulated. It is necessary, therefore, to remove the motor from the line in much shorter time than if it were applied in the conventional manner.

Overload relays designed to protect hermetically sealed compressors motors are called "quick trip" overload relays. The time-temperature curve for quick trip units is similar in shape to the standard unit but the time required to trip on a given overload is much shorter.

Centrifugal Extractor

Centrifugal extractor loads present a problem opposite to that just described for the overload relay. The problem here is to provide an overload relay which will allow the machine to accelerate without nuisance trips but still will protect the motor from comparatively slight, sustained overloads. There are many extractors in this area, which take up to four minutes to accelerate from start to full speed. This means that the motor is operating for a period of four minutes at something between locked rotor and full load current. The trick is to provide an overload relay which will absorb the heat generated by the starting currents and still protect the motor from a running overload of as little as 15%.

The slow trip overload relay element has been designed to handle this application. Once again, the time-temperature curve shape is very similar to that of the standard overload relay but the time required to trip on a given overload is much longer. The slow trip overload relay will protect most extractor motors.

Occasionally, however, it is necessary to resort to other trickery in order to provide adequate overload protection. One of the more common methods of compensating for the long accelerating time is to incorporate a saturating current transformer in the overload relay circuit. When the transformer is properly designed, it will saturate at slightly more than full load current so that the secondary current is relatively lower than the actual motor current. The secondary current is then fed through the overload relay.

If the satuation point is properly selected, the overload relay will read a direct proportion of the motor current up to the saturation point and a relatively lower proportion above that point. It is then possible to select an overload relay which will protect the motor against running overloads and yet will hold in during the critical accelerating

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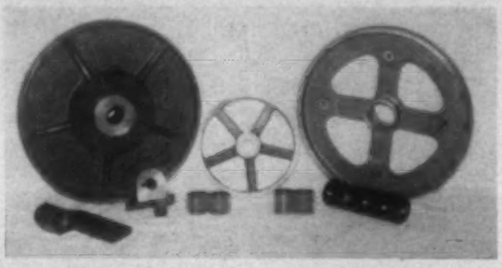

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period. Since a different saturating transformer must be designed for each motor load, the current transformer is used only when it is impossible to make a proper selection of standard units.

The third special application is the protection of motors which are grouped behind a single branch circuit overcurrent protective device. This application is normally called group fusing. The N.E.C. specifies that a branch circuit overcurrent protective device for group installation should be selected based on three times the full load current of the largest motor in the group, plus the total of the full load currents of all other motors in the group. This means that the branch circuit protective device may be several times larger than that specified for a single motor installation. Under this circumstance, it is likely that a short between the motor controller and the motor would cause the overload relay to burn out before the branch circuit overcurrent protective device trips.

There is no practical cure for this malady. The solution, therefore, is to enclose the overload relay element so that if it burns out it will confine the fire to itself and not allow it to spread to surrounding insulation, debris, etc. Since the time-temperature curve required for this application is exactly the same as provided by a standard overload relay, the only difference between the standard overload relays and those approved for group fusing are that the latter is enclosed in some manner to minimize the fire hazard during burn out. It should be concluded from this that any group installation is, at best, an economical compromise.

The standardization of motors and motor controllers has done much to foster the industrial revolution in this country. A few short years ago every motor installation had to be completely analyzed with regard to motor thermal capacity, accelerating time of the system, locked rotor current and full load current in order to make a proper selection of an overload device. Because of standardization, however, it is now possible for anyone to make a proper overload selection knowing only the horsepower, voltage and the general application. At the same time, the development of motor overload protective devices has grown into a very exact science. Our motors today have better "preventative insurance" than ever before.

Herman Cone Leaves $7 Million Estate

Herman Cone, former president and chairman of the board of Cone Mills Corp., Greensboro, N. C., left a gross estate of $7,688,641, according to the appraisal filed in Surrogate's Court. Mr. Cone died December 10, 1955 at the age of 60. The net taxable value of his estate is $4,760,535. Among the holdings are 400 shares of Textile Insurance Co., valued at $11,200 and 10,300 shares of Cone Mills Corp., valued at $156,054.

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T.A.'s South Carolina Division Meets April 3

Frederick B. Dent, president of the South Carolina Tex- e Manufacturers Association, and president and general anager of Mayfair Mills, Arcadia, S. C., will be the atured speaker at the Spring meeting of the South Carolina ivision of the Southern Textile Association. The meet- g will be held Friday evening, April 3 at Fairforest High hool, Spartanburg, S. C.

Dent

Etters

The meeting will get underway at 6:30 p.m. with a cold plate supper in the school cafeteria. Following Dent's remarks on "Textiles in South Carolina," the meeting will divide into four separate problem solving clinics. Group No. 1 will discuss "Carding," with Joe N. Jenkins, Kendall Mills, Pelzer, S. C., and Robert A. Liner, Greenwood (S. C.) Mills, acting as discussion leaders. A discussion on "Spinning and Warp Preparation" will be led by Joe L. Delany and Alex Crawford of Joanna (S. C.) Cotton Mills Co. A discussion on "Slashing, Weaving and Cloth Room Practices" will be led by J. A. Chapman Jr., Inman (S. C.) Mills and D. H. Roberts, Lydia Cotton Mills, Clinton, S. C.

A special discussion topic for the meeting will deal with "Personnel, Safety and Industrial Nursing." Discussion leaders for this session will include W. M. Pittendreigh, Riegel Textile Corp., Ware Shoals, S. C.; Snow Marshall, Reeves Bros., Spartanburg; and Mrs. Sible Chaney, Laurens (S. C.) Mills. A special invitation to participate in this session is being extended to all textile personnel interested in these functions.

Reservations for the cold plate supper can be made with the chairman of the South Carolina Division, W. B. Etters, Reeves Bros. Inc., Box 892, Spartanburg. Acting as host for the meeting will be Reeves Bros.

Quick Action Urged On Pastore Report

Senator Strom Thurmond has urged Congress to "act expeditiously" to implement the recommendations of the special Senate Textile Subcommittee, "in order that the confidence reposed in this report (by the domestic textile industry) can be merited." He said the reception of the report of the special subcommittee for the study of the domestic textile industry, upon which Thurmond served as the only Southern member, is most encouraging. "The most encouraging aspect of the reception given this report," he said, "is shown by the round of wage increases announced by the textile industry." He pointed out that wage increases in some textile mills are said to be a direct result of the report given by the subcommittee in which relief was recommended for the industry.

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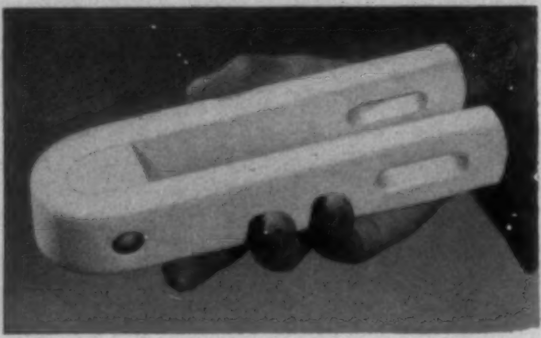

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Japanese Purchases Of U. S. Cotton Disclosed

Japanese raw cotton purchases from the U. S. were over twice as high as Japanese cotton textile sales to this country, according to 1958 statistics released by the Japan-U. S. Textile Information Service.

The 2.4 trade balance ratio in favor of the U. S. resulted from Japanese purchases of $135,761,000 of American raw cotton and Japanese sales of $56,930,000 of cotton textiles to the U. S. In 1957, Japan imported $224,530,000 in American raw cotton and exported $53,790,000 in cotton textiles to the U. S.

The similarity in 1957 and 1958 exports of Japanese cotton textiles to this country (54 and 57 million, respectively) was due to voluntary quota restrictions imposed by the Japanese textile industry. The 39.5% decrease in Japanese cotton imports was due to a reduction in quantity and price.

Details of Japan's cotton trade balance with the U. S. follow:

Exports to the U. S.	1958	1957
Cotton yarn		
($000)	2.7	4.9
(000 lbs.)	3.9	4.9
Cotton cloth		
($000)	21,572	17,669
(000 sq. yds.)	97,301	81,766
Cotton made-up goods		
($000)	35,356	36,116
(000 lbs.)	32,540	33,426
Total ($000)	56,930	53,790
Imports from the U. S.		
Raw cotton		
($000)	128,890	212,623
(000 bales)	901	1,376
Waste cotton		
($000)	6,871	11,907
(000,000 lbs.)	37.7	50.1
Total ($000)	135,761	224,530
Balance ($000)		
(Excess of imports)	78,831	170,740

Southeastern A.A.T.C.C. Sets Meetings

The Southeastern Section of the American Association of Textile Chemists & Colorists has chosen the dates for its 1959 meetings. The meetings will be held April 16; June 12-14 (outing); September 12; and December 15. Locations have not been definitely determined.

N.A.W.M. President Backs Wool Promotion

In a letter directed "to all in the wool textile industry," William I. Kent, president of the National Association of Wool Manufacturers, commended the recently announced program of Woolens & Worsteds of America to stimulate the prestige and sales of American-made wool products. Kent is a vice-president of the newly-formed wool trade association.

Stating in his letter that he was "in full accord with this program," Kent, who also is president of Kent Mfg. Co., Clifton Heights, Pa., announced that his company had pledged its support for two years. The letter is in support of a Woolens & Worsteds of America inter-industry membership drive, now being conducted by the association to raise a $300,000 fund for a two-year national public relations and promotional campaign. Wool growers, spinners, weavers, knitters, felters, processors and firms in allied fields are being invited to join in the promotion, the first such united wool trade effort in more than 25 years.

Describing the need for the joint project, Kent said, "One of the basic desires of each of us in the woolen and worsted industry is to increase the demand for our products. We often complain that other industries can afford to attract consumers at our expense by spending large sums of money on advertising, public relations and promotion."

"That we individually cannot do this is abundantly clear. Neither the composition nor the financial structure of the industry is such, with a few exceptions, to promote aggressive individual programs of the type required." Recalling that he indicated, at the annual meeting of the N.A.W.M. last May, that there are ways and means by which the industry can help itself, Kent's letter suggests the Woolens & Worsteds of America program "is a concrete example of what is possible if all segments of the trade participate."

"I feel such a program can be of great benefit to the industry," Kent continued. "The N.A.W.M. staff has assisted in every way in drawing up this program and I have personally participated in its development. I strongly commend the program to you as I am convinced this is in the direction we must take as an industry to: first, protect our markets and, second, expand them."

Georgia Cotton Manufacturers To Meet

The Cotton Manufacturers Association of Georgia will hold its 59th annual convention at the Diplomat Hotel and Country Club, Hollywood Beach, Fla., April 22-25. The meeting will officially open on the evening of Wednesday, April 22. A special train will be operated from Atlanta to Hollywood for the convenience of those attending. Details of the program have not been announced but the convention will include the usual golf, bridge and gin rummy tournaments, the annual banquet and a special event.

Alabama Textile Association To Meet

Governor John Patterson of Alabama will be the featured speaker at the annual meeting of the Alabama Textile Manufacturers Association April 9-10 at the Buena Vista Hotel in Biloxi, Miss. Governor Patterson will speak on the second day of the meeting. The annual session of the Textile Education Foundation will be held Wednesday afternoon.

S. C. Textile Association To Meet

The annual meeting of the South Carolina Textile Manufacturers Association will be held at Sea Island, Ga., May 28-30, according to Frederick B. Dent, president. The program for the meeting has not yet been completed.

Clemson Offers Summer Textile Program

A short course program in textiles, offering five courses, will be conducted this Summer at the Clemson College School of Textiles, according to Dean Gaston Gage. Courses are planned in yarn manufacturing, fabric development, supervisor development, motion and time study, and quality control. Each course will be presented as a full-time pro-

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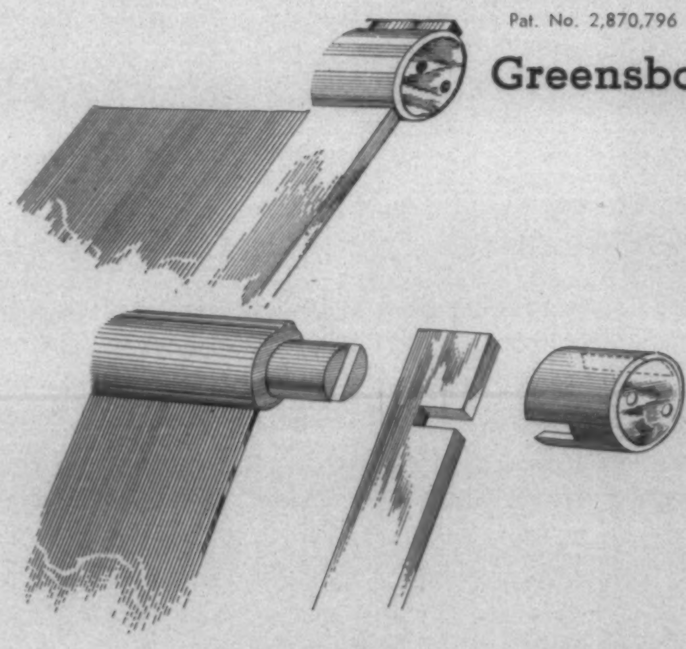

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gram, running for three weeks with no classes on Friday afternoons or Saturday mornings. No entrance examinations nor college credit will be given, says Dean Gage.

The courses in yarn manufacturing and fabric development are designed "for a young man who has chosen a career in textiles but has not attended a textile school." The supervisor development course is planned for broadening of first line supervisors. Courses in quality control and motion and time study will serve the specialist or supervisor who needs indoctrination in these fields. Enrollment in quality control will require some knowledge of college mathematics, and applicants must be at least high school graduates. Beginning dates for the three-week classes are June 15, in yarn manufacturing; July 6, fabric development; July 6, supervisor development; July 15, motion and time study; July 27, quality control.

Cotton Greige Goods Hold Steady Price

Prices continued steady or showed an upward trend in the cotton greige goods market as the second quarter approached, in an apparent reversal of tradition. The buying may be sparked by the recently announced round of increases on the part of Southern mills. The second quarter is usually an off-season for greige cottons. Buying was reported to be steady with fancy premiums paid for nearby deliveries. The goods involved in the selling were premium quality 39-inch, 80x80, 4.00 yard at 19 cents and the 41-inch 78x78, 4.05 yard at 18 cents for the third and fourth quarters.

Design Protection

A pamphlet entitled "Protection of Designs" has been issued by the National Committee for Effective Design Legislation. The publication points out that present laws do not provide effective protection and outlines the problems of design piracy and proposed legislation to secure what is deemed to be adequate protection. The pamphlet can be obtained by writing to the National Committee, 122 East 42nd Street, New York 17, N. Y. Alan Latman, executive secretary of the group, said that the organization was still working on a proposed bill with the aim of getting it introduced in Congress this Spring.

Southern Cotton Buyers To Meet

Cotton buyers representing 90% of the U. S. cotton textile industry will meet in Atlanta May 20-22, according to an announcement by Frank L. Carter, secretary of the Cotton Manufacturers Association of Georgia. The occasion will be the annual meetings of state cotton buyer groups from Georgia, Alabama and North and South Carolina and a joint meeting referred to as the "Cotton Buyers of the Southern States." Carter said that approximately 500 mill representatives and guests will attend the two-day conference. He said that it will be the largest group of cotton buyers ever assembled and the first such joint meeting in the Southeast.

Robert C. Jackson, executive vice-president of the American Cotton Manufacturers Institute will be the principal speaker and his address is scheduled for 10:45 a.m. on Friday, May 22. The program on Thursday, May 21 will consist of individual meetings of the several state groups and a general session at which reports will be made on the following topics of cotton buyer interest: Trading and

Rules; Ginning; Arbitration; Legislation; Cotton Growth, Variety and Quality; and Grade, Staple and Preparation.

The chairmen of the state delegations are; Georgia—D. P. Cook Jr., West Point Mfg. Co., West Point; Alabama—A. G. Harris Jr., Wehadkee Yarn Mills, West Point, Ga.; North Carolina—J. D. Siewers, Washington Mills, Winston-Salem; and South Carolina—W. Oscar Tate, Burlington Cotton Co., Greenville.

On Friday morning, the state groups will hold business meetings for the purpose of electing officers for the coming year. A reception, banquet and dance are scheduled for Friday evening, May 22. All sessions will be held at the Dinkler-Plaza Hotel. Special forms for requesting hotel reservations have been distributed to the buyer groups in each state. Friends in the cotton shipping and textile waste trades may obtain reservation form by writing to the Cotton Manufacturers Association of Georgia headquarters, 740 C & S National Bank Building, Atlanta, Ga.

Wool Consumption Up

The weekly average rate of fiber consumption on the woolen and worsted systems in January was 25% above the December rate and 40% above that of January 1958. The weekly average raw wool consumption during January was 8,567 thousand pounds (scoured basis) or 27% above the December level, and 56% above that of January 1958. Consumption of apparel class wool was 28% above the December level and 43% above that of January last year. Consumption of carpet class wool was 27% above the rate of the preceding month and 79% above the January 1958 rate.

Consumption of fibers other than raw wool averaged 6,065 thousand pounds per week, or 22% above the December average and 23% above January 1958. These figures include production of man-made fiber tow converted to top without combing. Total fiber consumption also includes this top production.

Results Of Georgia Safety Contest Announced

Employees of 18 Georgia textile mills worked a combined total of 10,154,097 man-hours in 1958 without a single lost-time accident, according to Frank L. Carter, secretary of the Cotton Manufacturers Association of Georgia. In announcing results of the association's 10th annual safety contest, Carter said that the number of mills without lost-time accidents doubled over the 1957 contest.

The 18 perfect-score mills and four other mills with the best safety records in specific categories will be awarded plaques in a ceremony to be held at a later date. Commenting on the safety achievements of Georgia mills in 1958, Carter said that the 117 mills participating in the contest experienced a slightly higher average accident frequency and severity rate than in 1957. He attributed this to several accidents of unusual severity and pointed out that 83% of the mills in the contest earned accident severity ratings lower than the average for all mills.

The following mills are those with perfect safety scores in 1958. Man-hours worked without an accident are shown in parentheses: Ames Textile Corp., Cleveland (427,773); The Jefferson Mills, Plant No. 2, Crawford (392,887); J. P. Stevens & Co., Nathaniel Plant, Dublin (900,985); Clarkesville Mill, Clarkesville (703,985); Thomaston Mills,

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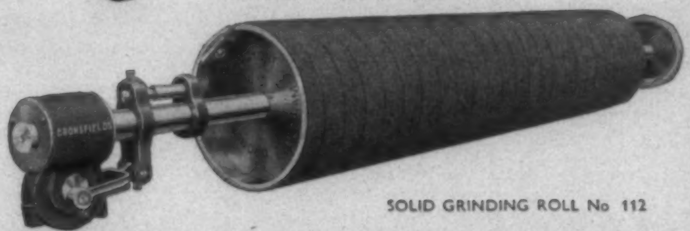

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Griffin Plant (1,198,713); Columbus Mill Division, West Point Mfg. Co., Columbus (1,928,577); The Hartwell Mills, Plant No. 2, Toccoa (221,940); The Jefferson Mills, Finishing Plant, Jefferson (219,323); Chicopee Mfg. Corp., Lumite Division, Buford (191,551);

Bibb Mfg. Co., Crown Plant, Macon (174,348); Bibb Mfg. Co., Taylor Mill, Reynolds (144,397); Bibb Mfg. Co., Star Plant, Macon (85,006); Chicopee Mfg. Corp., Lumite Division, Cornelia (671,769); Chicopee Mfg. Corp., Athens Division (665,366); Dundee Mills, Plant No. 5, Griffin (623,269); Dundee Mills, Plant No. 3, Griffin (570,585); Dundee Mills, Plant No. 2, Griffin (548,643); Coats & Clark Inc., Pelham (468,053).

Wool Interests Protest Revocation Of Countervailing Duty On Uruguayan Imports

American wool grower, dealer and wool mill organizations jointly charge that the U. S. Treasury is self-contradictory in revoking a countervailing duty on subsidized imports of Uruguayan wool top while failing to impose such extra duties on wool yarns, wool fabrics, meat and other products.

In a public statement, the American wool and wool textile interests earlier this month repeated their contention that Uruguay still is subsidizing wool top exports by multiple rates of currency exchange and that the subsidy or bounty should continue to be countervailed. They said they agreed thoroughly with ten U. S. Senators who wrote Treasury to that effect on February 19.

The contradiction arises because Treasury's formula now finds no subsidy on tops but does show Uruguay is subsidizing exports of wool yarns, wool fabrics, meat and meat products, but no countervailing duties have been levied on these items, the groups said.

The statement was issued by William I. Kent, president of National Association of Wool Manufacturers and of Kent Mfg. Co., Clifton Heights, Pa., and Morton H. Darman, chairman of the N.A.W.M. topmakers group and president of The Top Co., Boston, and of Barre Wool Combing Co. Ltd., South Barre, Mass. Darman also spoke for the National Wool Growers Association, the National Wool Marketing Corp., the National Wool Trade Association, the Boston Wool Trade Association, the Northern Textile Association of Boston and the Philadelphia Wool & Textile Association.

Spokesmen for the U. S. wool industry say the subsidy is the difference between the higher exchange rate on wool tops, the semi-manufactured product, and the rate for greasy wool, the raw material. Treasury, however, uses a weighted average of all Uruguayan export and import exchange rates and compares this with the rate for wool top. Until recently the rate for top was higher than the average and the countervailing duty was set to offset this differential. Now, Treasury says, the rate for top is less than the weighted average and late in January announced it was ending the extra duty. Domestic industry protests led to a hearing before the Senate Finance Committee on February 17 and Treasury delayed ending the duty until it could study the hearing record. It has since announced it was revoking the extra duty.

The text of the statement from the wool industry follows:

"The decision of the U. S. Treasury Department to revoke the countervailing duty on subsidized wool tops imported from Uruguay is regrettable. We thoroughly agree with ten outstanding U. S. senators who jointly wrote the Treasury on February 19, 'Uruguay continues to bestow a bounty or grant upon exports of wool top to the U. S.' This subsidy or bounty requires a countervailing duty under Section 303, Tariff Act of 1930.

"Our position is that the bounty or subsidy results because Uruguay has a higher rate of currency exchange on wool tops than on greasy wool; in short, the Uruguayan exporter receives more pesos for dollars received in the sale of wool tops to the U. S. than for dollars received in the export of greasy wool.

"As the ten senators wrote, the Treasury formula, using a weighted average of unrelated exchange rates of imports and exports of other commodities compared with the rate for wool top 'is inconsistent with law and logic and is not consonant with commercial reality.'

"The Treasury persistence in holding that there no longer is a subsidy because the exchange rate for wool tops is less than the weighted average can only mean that there should be a countervailing duty on all Uruguayan exports to the U. S. which have an exchange rate higher than the weighted average. The senators put it this way. 'The artificiality of the Treasury formula is demonstrated by the fact that imports of meats and meat products should, pursuant to it, be countervailed but they are not and have never been.' Among the other products with exchange rates higher than the Treasury's average are wool yarns and wool fabrics and it is self contradictory that Treasury, in removing the extra duty on wool tops, failed to impose countervailing duties on these products.

"As we told the Senate Finance Committee February 17 at its hearing on this matter, we are not unmindful of the internal difficulties confronting our Pan American neighbor, Uruguay. It is our view that in our elaborate programs for foreign aid there must be more appropriate, legal means of extending sympathetic sound assistance without distortion of our own basic laws."

"Swedish Cloth" Unsuitable

Oliver D. Landis, manufacturers' agent in Gastonia, N. C., reports that the sign over his Franklin Street business is causing a lot of embarrassment. The sign reads "Swedish Card Clothing." It seems that women keep dropping in to see the Swedish cloth—much to the embarrassment of themselves and Mr. Landis.

Cotton Consumption Off

Cotton consumption in the U. S. in January totalled 687,360 running bales as compared with 727,410 bales in December 1958 and 797,774 bales in January of 1958. The daily average consumption totalled 34,368 running bales against 29,096 in the previous month and 31,911 in January 1958. Stocks totalled 13,861,624 bales against 13,912,093 at the same time in the previous year. Consumption of foreign cotton for the month totalled 6,832 bales against 7,461 in December and 8,096 in January a year ago.

Cotton system spindles in place at the end of the month totalled 20,497,000 as compared with 20,681,000 in place at the end of December and 21,055,000 in place at the end of January 1958. The number of active spindles was 19,283,000 as compared with 19,276,000 in the previous month and 19,601,000 in the previous January. The spindles

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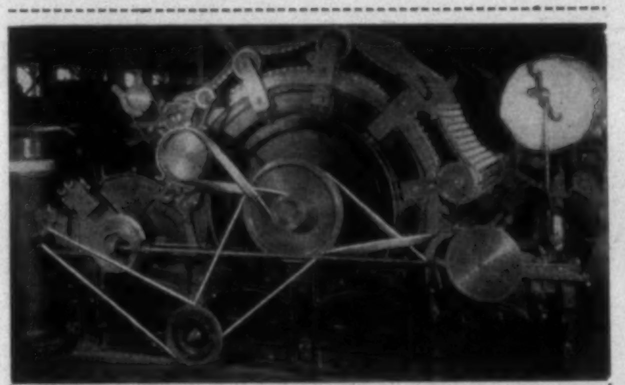

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were operated a total of 9,352 million hours in January, 10,427 million hours in December and 11,055 million hours in January 1958.

T.W.U.A. Appeals Cone Mills Suit

The Textile Workers Union of America has appealed to the U. S. Court of Appeals in Richmond, Va., following the dismissal of $80,000 suit against Cone Mills Corp. by the District Court at Greensboro, N. C. The lower court ruled that it lacked jurisdiction. The T.W.U.A. says it represents employees at Cone's Edna Plant at Reidsville, N. C., and its White Oak and Proximity plants in Greensboro.

The union seeks $80,000 as the total amount it says 2,000 workers would have received had Cone not called a 1956 Christmas layoff a "vacation." An abritration panel upheld the union but Cone balked at paying and the matter was taken to court. The union asks that Cone be restrained from failing to abide by the arbitration opinion.

Piedmont A.A.T.C.C. To Meet

The Piedmont Section of the American Association of Textile Chemists & Colorists will hold its Spring meeting April 10-11 at the Hotel Robert E. Lee, Winston-Salem, N. C. The meeting will open at 9 a.m., April 11 with a research committee meeting. Dr. Victor Salvin of the Celanese Corp. of America will discuss "The Mechanism of Carrier Dyeing." Members and guests are invited to attend this meeting.

The technical session will feature Robert Turner of The Du Pont Co., who will present a paper on "The Use of Orlon In Knit Goods." The paper will have particular reference to dyeing and finishing technique. Dr. Salvin will speak on the "Relation of Dye Structure to Properties of Disperse Dyes." A social hour follows the technical session at 5 p.m. and the banquet will be held at 7 p.m. Dr. George L. Simpson, director of the Governor's Research Triangle at Chapel Hill, N. C., will be the banquet speaker.

Union Carbide Vs. F.T.C. Definitions

Union Carbide Corp. will soon introduce a new synthetic textile now called Fiber T, according to Frederick Simon of the company. Simon revealed the development at a hearing of the Federal Trade Commission on the proposed rules for administration of the Textile Fiber Products Act. Simon objected to the proposed definition of acrylic and modacrylic fibers. The new product will be of 65 to 75% acrylonitrile, he said, which would put it in the modacrylic classification. This, he said, is unfair to the company and to its customers. The proposed F.T.C. definition of acrylic fiber is one containing 85% or more of acrylonitrile.

New Easy-Care Finish Developed

The development of a non-resinous process that transforms cellulosic cloth into a new fabric with greatly improved easy-care properties, has been announced by W. R. MacIntyre, president of Joseph Bancroft & Sons Co., originators of Everglaze and Everglaze Minicare fabrics. Extensive trial runs have been completed and full production can be expected at the Bancroft plant this Summer, he reported.

The chemical principles involved are reported to be entirely new. Patent applications have been made and the trademark Bancare has been assigned to this new member of the Everglaze family of fabrics.

MacIntyre said that fabrics produced by the new process have a host of distinctive properties, the most important of which are substantially improved compatibility for resin treatment if desired, recovery from wrinkles when wet, a soft, non-irritating hand and life which means new wearing comfort, and permanently improved dimensional stability.

Pointing to the fact that the chemical composition of the basic fiber is permanently altered, MacIntyre said that cloth subject to the new process is unique in that the resultant change is not due to a special finish but rather to a complete transformation in the fabric itself, wherein all of the desirable characteristics of the original cloth are retained, most of the bad ones discarded, and new and improved features acquired. Production facilities at the Bancroft plant in Wilmington, Del., have been allocated to the new fabrics and a licensing program is under consideration.

Broad Woven Production Up

The Bureau of the Census, U. S. Department of Commerce, has announced that a preliminary tabulation of broad woven fabric production for the fourth quarter 1958 indicated that both cotton and man-made fiber fabric production increased 10% compared to the previous quarter. During the same period woolen and worsted fabric production decreased 2%. Production of man-made fiber fabric and woolen and worsted fabric was, respectively, 10% and 12% above the fourth quarter 1957 level. Cotton fabric production declined 1% from the output during the comparable period of 1957. For the year 1958, fabric production for both cotton and wool declined 6% from the previous year's level while man-made fiber fabric production increased 5%.

New York Textile Merchants Name Officers

Alonzo F. Bonsal, executive vice-president of Joshua L. Baily & Co. Inc., was elected chairman of the board of The Association of Cotton Textile Merchants of New York, succeeding John C. Hughes of McCampbell & Co., at the organization's meeting March 3.

W. Ray Bell was re-elected president. Frank M. Leslie of Leslie, Catlin & Co. was elected vice-president, succeeding Herman D. Ruhm Jr. of Wellington Sears Co., and

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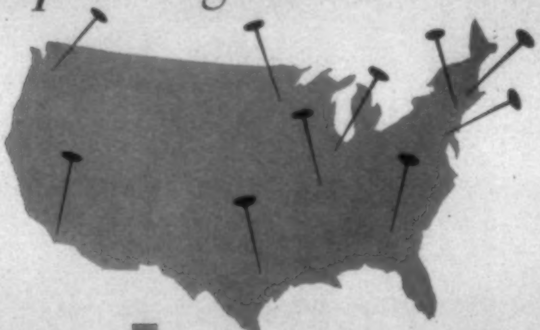

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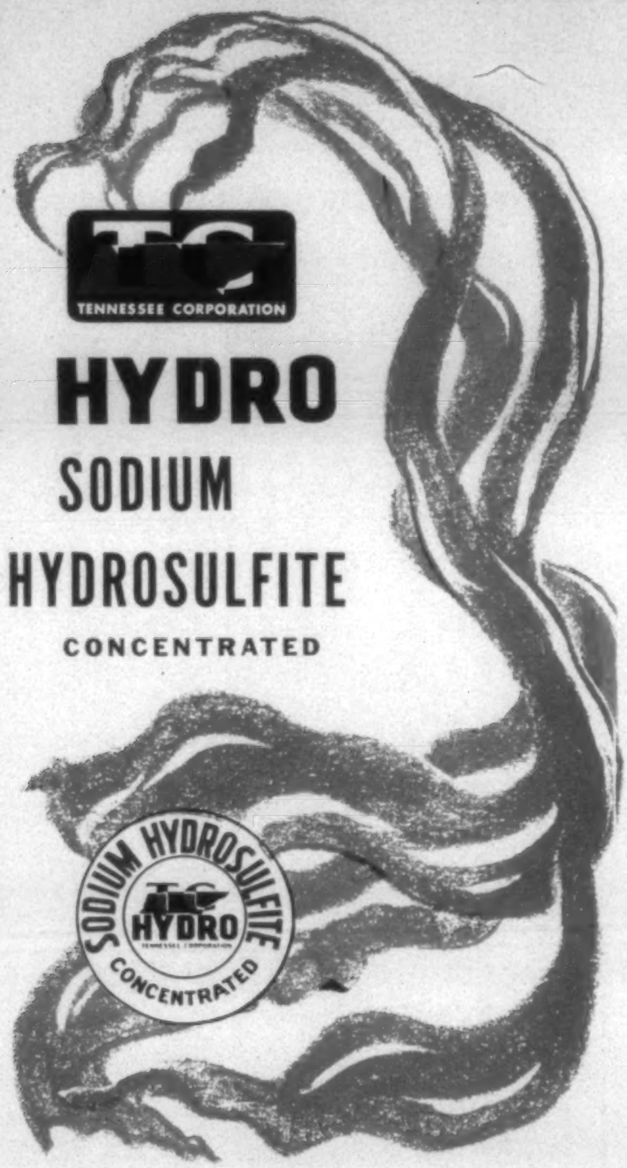

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TENNESSEE TC CORPORATION

George H. Lanier Jr. of Turner Halsey Co. was re-electe treasurer. John L. Severance was re-elected secretary an Edwin F. Vandervoort assistant treasurer.

At the meeting Campbell D. Garrett, vice-president an director of J. P. Stevens & Co., was elected to the boar to fill the unexpired term of Joseph H. Sutherland of th same firm, whose resignation was accepted with regret.

The following were appointed to serve with the office as an executive committee: Marvin R. Cross of Greenwoo Mills, John Howland of Woodward, Baldwin & Co., an Stanley Phillips of Cannon Mills.

Report Wool Use Up

The weekly average rate of fiber consumption on th woolen and worsted systems in December was 14% below the November rate but 15% above that of December 1957, according to a report of the Bureau of the Census. Th weekly average raw wool consumption during December was 6,720 thousand pounds (scoured basis) or 10% below the November level, but 31% above that of December 1957. Consumption of apparel class wool was 11% below the November level, but 20% above that of December of last year. Consumption of carpet class wool was 9% below the rate of the preceding month but 50% above the December 1957 rate.

Consumption of fibers other than raw wool averaged 4,973 thousand pounds per week, or 19% below the November average and 2% below December 1957. These figures include production of man-made fiber tow converted to top without combing. Total fiber consumption also includes this top production.

Dan River Mills' Retiree Program Cited By "Public Relations News"

"Public Relations News," an internationally distribute public relations weekly for members of management, points out in its current issue "that whether an organization ha 2 or 200,000 employees, it's a moral obligation and also good business to help retirees lead happy lives" and cite Dan River Mills as one company which has pioneered i the field of retiree relations.

Noting that Dan River began to show not only a re but constructive interest in all its employees in 1948 wit the adoption of a pension plan, one of the first such plan to be put into effect in the textile industry, *"Public Rel tions News"* in a two-page case study points out that gre strides have since been made in developing activities whic would boost the morale of the oldsters after retirement.

This program, as it has finally evolved, consists of tw major phases, the publication points out. The first of thes phases takes place prior to retirement and actually begin five years before age 65 with a private and confidentia consultation with the director of benefits. Purpose of thi conference is to advise the employee on his various option under the pension plan and to discuss with him any problems which may be bothering him. Formal sessions are als held at the time of retirement although the retiree has standing invitation to consult with the company at any tim during the intervening period. The second phase begin after retirement. Backbone of this phase is the Retire Workers Club organized six years ago with an initial membership of six which has since jumped to 241.

Promotions, Resignations, Honors, Transfers, Appointments, Elections, Civic and Associational Activities

PERSONAL NEWS

Howard Alfred

Howard (Soney) Alfred has been added to the sales staff of Louis P. Batson Co., Greenville, S. C. Alfred's territory will consist of portions of the mills in Alabama, Tennessee and Georgia. He was formerly with the Buick Division of General Motors. The Louis P. Batson Co. manufactures and distributes items for the textile industry.

Joseph Hollis (Uncle Joe) Sutherland will retire as vice-chairman of J. P. Stevens & Co. on May 1. One of the most popular and respected men in the textile industry, his retirement marks the close of 50 years in the textile business. Sutherland joined J. P. Stevens & Co. in 1929 and for 11 years merchandised cotton textiles. Then came 13 years in the newly-formed rayon division—a director in 1937 and a vice-president in 1945. He was made an executive vice-president in 1947 and became president in 1952—the first president in the firm's history not related to the Stevens family. Upon the return of Robert T. Stevens from his service as Secretary of the Army in 1955, Sutherland became vice-chairman of the board and director of sales.

Olen Marks has been named manager of the technical service department of Fabrionics Corp. Marks is available for consultation regarding the application and service of any Fabrionics product at P. O. Box 10633, Cameron Village, Raleigh, N. C. (telephone Temple 3-8150). He was formerly superintendent of textile operations at North Carolina State College, treasurer of the American Association for Textile Technology and member of the American Association of Textile Chemists & Colorists.

Clifton Wayne Howell has been named manager of the Erwin, N. C., plant of Erwin Mills, Durham, N. C. Howell succeeds W. H. Miley Jr., who died recently after a heart attack. Howell was previously manager of one of the company's mills at Cooleemee, N. C.

Lloyd K. Williams, superintendent of the Peerless Division of Thomaston (S. C.) Mills, has been named general chairman of the textile operating executives of Georgia, succeeding Clyde C. Cobb, assistant general manager of the Riegel Textile Corp., Trion, Ga. . . . W. S. James, superintendent of the Summerville (Ga.) Mfg. Co., was elected vice-general chairman, succeeding Williams.

Celanese Corp. of America has elected two new directors. They are Edwin C. McDonald, vice-president and a director of Metropolitan Life Insurance Co., New York City, and Maxwell W. MacKenzie, president of Canadian Chemical & Cellulose Co. Ltd., Montreal, a Celanese affiliate.

Everett C. Drake, controller of M. Lowenstein & Sons, has been elected president and a director of the firm. Drake succeeds Donald B. Tansil, who has been named board chairman, succeeding Leon Lowenstein. Lowenstein was named to the newly-created post of executive chairman. . . . Robert Bendheim and Philip Feibusch, both vice-presidents, were elected to newly-created positions of executive vice-presidents. . . . Martin M. Harmon was named controller, suceeding Drake. . . . William H. Grier was elected president of the Rock Hill Printing & Finishing Co., Lyman, S. C. . . . Joseph J. Lyons, head of the company's mill operations, was elected president of all the greige goods mills.

Fred L. Still, formerly assistant treasurer of the Belle-Vue Plant of William L. Barrell Co., Hillsboro, N. C., has been named superintendent of Pilot Mills Co., Raleigh.

Robert Campbell of the Dixon Corp. has been stationed in Greensboro, N. C., to service Dixon changeovers for spinning frames. Campbell has been at the home office of Dixon Corp. in Bristol, R. I., for the past four years, working in the sales department and making sales and service

HUFFINES NAMED TO ROBERTS' BOARD—Robert L. Huffines Jr. has been elected to the board of directors of Roberts Co., Sanford, N. C. Long prominent in the textile industry, Huffines has served as president of Burlington Mills Corp. of New York from 1947 to 1953; and as president of Textron Inc. and its subsidiary Amerotron Co. from 1953 through 1956. Currently he is chairman of the board of Worth Fund Inc., a closed-end investment company specializing in textile and related securities which he founded early in 1958. He is also chairman of the board of Frank G. Binswanger Inc., the Reinsurance Investment Corp., the Loyal American Life Insurance Co. and the National Bankers Insurance Co. He continues as a director of Textron and also holds seats on the boards of American Broadcasting Co., Paramount Theatres, Firth Carpet Co. and Estate Life Insurance Co. Other members of the Roberts' board include *(seated, left to right)* Jonathan N. Pomeranz, Robert E. Pomeranz and Warren R. Williams; *(standing, left to right)* Huffines, James A. Overton, David E. Henderson and Orris T. Sloan.

calls in New England. He will service both double apron Roth and Casablancas spinning changeovers as engineered by Dixon and will be available to any of Dixon's customers in the Southern area. He can be reached through Dixon's exclusive sales representatives, Dunson & New Inc. in Greensboro by calling Broadway 2-1565, and in Greenville, S. C., by calling Cedar 9-9885.

Royden Walters

Royden Walters has been named vice-president of Saco-Lowell Shops, Boston, Mass. Walters joined Saco-Lowell last year as executive assistant to the president, Thomas J. Ault. He previously had been associated with Ault as secretary-treasurer of Long Mfg. and Detroit Gear Divisions of Borg-Warner in Detroit, as well as Long Mfg. Ltd. of Oakville, Ontario, and Cello Products of Galt, Ontario.

J. Morgan Davis has been named manager of the Coats & Clark plant at Acworth, Ga., succeeding Edgar Hembree. Davis has been with Coats & Clark since 1937. His previous position was that of overseer of the first shift at the company's Clarkdale plant.

Albert Arthur Whitehead has assumed the position of personnel manager for Newberry (S. C.) Mills. Whitehead will have full responsibility for operation of the personnel department. He was previously located in Charlotte, N. C., where he was associated with the refrigerated foods division of General Mills Inc.

C. Ralph Ewing, executive vice-president of Dixie Mercerizing Co., Chattanooga, Tenn., has been nominated as president of the Rotary Club in Chattanooga.

Joseph L. Finley has joined the textile field service section of the technical sales service department, Clinton Corn Processing Co. His headquarters will be the Textile Service Laboratory, Clinton Corn Processing Co., Greenville, S. C. Finley is a graduate in textile manufacturing from North Carolina State College. He was formerly with Pacific Mills at Columbia, S. C., and Chemical Processing Co., Charlotte, N. C. Added to Clinton's textile service staff to improve and expand the textile service to the textile mills in the Southeastern division, he will work directly under the supervision of Edgar F. Patterson, head of Clinton's textile service station.

John C. Smaltz has resigned as president of the McKiernan-Terry Corp., Harrison, N. J., to devote his entire time to the engineering and research work of the corporation as its consulting engineer. . . . Carl W. Shattuck, who was formerly first vice-president, was elected president to succeed Smaltz. Shattuck has been connected with the corporation for 30 years and was previously in charge of its Dover plant. He was primarily responsible for the company entering into the textile finishing machinery field.

Glenn C. Brown of Cannon Mills, York, S. C., is now overseer of carding on the third shift at the industrial plant of J. P. Stevens & Co., Rock Hill, S. C.

Sam Homewood, formerly superintendent of the Raeford division of Pacific Mills, has been promoted to plant manager of the company's mill at Hot Springs, N. C. He replaces Frank Blue, who has been promoted to plant manager of the Valley Falls (R. I.) plant of Sidney Blumenthal Co. Blumenthal and Pacific Mills are members of Burlington Industries.

J. Dan Smith, superintendent of the textile division of the Texas Department of Corrections at Huntsville, Tex., has retired.

Thomas J. March has been appointed manager of sales for the silicone products department of General Electric Co. He succeeds John T. Castles, who has become general manager of the chemical development operation of the company's chemical and metallurgical division. March was formerly manager of materials and devices sales for the G-E Specialty Electronic Components Department in Auburn, N. Y. He joined General Electric after graduation from Illinois Institute of Technology.

In a re-organization of its greige mill management, the Trion (Ga.) Division of Riegel Textile Corp. has announced four promotions. W. E. Ashley, formerly superintendent of the preparatory mill, has been named superintendent of slashing and weaving. Ashley joined the Trion division in 1949 as a trainee. He served in various capacities and in 1954 was transferred to the Ware Shoals (S.C.) Division where he was night assistant superintendent. In 1957 he was named superintendent of the preparatory mill at Trion. . . . McMillan Myers Jr., assistant superintendent of the greige mill, has been promoted to superintendent of carding and spinning. Myers joined Riegel in 1947 as assistant superintendent. He was formerly with the American Thread Co. of Clover, S. C., and Standard-Coosa-Thatcher Co., Chattanooga, Tenn. He is a graduate of Georgia Tech. . . . David L. Harrison has advanced to general night overseer of the carding and spinning departments. Harrison has been with Riegel since 1956 when he joined the company as a trainee. He was promoted to supervisory assistant of spinning in September of 1958. . . . Jack O. Orr has been promoted to general night overseer in the slashing and weaving departments. Orr has been with Riegel since 1953. He was promoted to supervisory assistant to the overseer of weaving in 1957 and to second hand in the weave room in 1958.

L. E. Remington

Leland F. Remington has been elected vice-president of manufacturing of Curtis & Marble Machine Co. of Worcester, Mass., and Greenville, S. C., manufacturers of cloth finishing machinery since 1831. Remington has been general superintendent and a director of the company since 1953 and will continue to hold these positions. He has been with Curtis & Marble for 40 years. . . . Newly-elected to the board of directors of the company was William A. Marble of Bronxville, N. Y. Marble is the son of Dr. Henry C. Marble, a director of the company.

E. S. (Bud) Frasch, sales promotion representative for Dow Corning Corp., Midland, Mich., in the New York and Philadelphia areas, has been appointed assistant merchandise manager of textile and leather industry sales section. Frasch assumed his new duties on March 2. In his new position, he replaces Charles J. Lenz, who recently was appointed to direct the planning and production of advertising-sales promotion programs for Dow Corning's textile sales section and the silicone specialties division. Since joining Dow Corning in 1956, Frasch has served Dow Corning as consultant to fiber mills, finishing plants, garment manufacturers and retail stores in the New York and Philadelphia areas.

W. Powell Thomas has been named assistant controller of Reeves Bros., textile manufacturers. He will report directly to Brooks R. Prince, assistant secretary and controller. Prior to joining Reeves, Thomas was assistant secretary of La France Industries, La France, S. C.

Alfred G. New, formerly general manager of the Judson Mills, Greenville, S. C., has been named treasurer of the Gaffney (S. C.) Mfg. Co. New has been with Judson since 1939. In 1956 he was promoted to plant manager and has served as general manager since September 1958. New replaces J. J. Norton Jr., who has assumed the post of vice-president and treasurer of Pacolet (S. C.) Mfg. Co. . . . John W.

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Walker succeeds New at Judson. He has held various positions at Judson and recently has been assistant general manager of Machias, Kingsley and Gerrish Milliken Mills.

Victor Saxl, vice-president of Stellamcor Inc., textile machinery importing firm, has resigned to become a senior engineer with Werner Textile Consultants on a South American assignment. Saxl's first assignment will be the Fabrica de Panos Bellavista in Tomey, Chile. Saxl joins Stellamcor's board and will be available to the company for consultation. Fred S. Levy, Stellamcor treasurer, has assumed Saxl's duties.

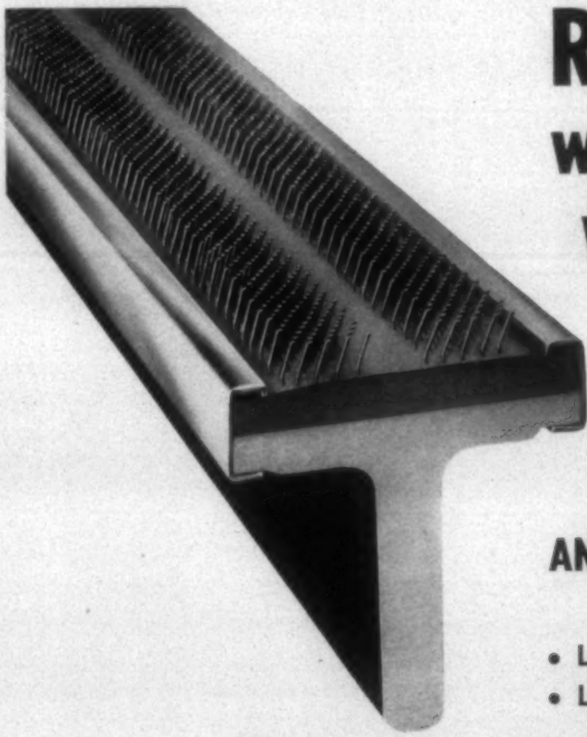
Dr. Martin J. Lydon, president of Lowell Technological Institute, Lowell, Mass., was honored on February 28 as Lowell's "Citizen of the Year" by the Greater-Lowell Civic Committee. Speaking at a special banquet honoring Dr. Lydon was Dr. Kenneth R. Fox, vice-president of Fabric Research Laboratories, Dedham, Mass., and Dr. Lydon's immediate predecessor as president of L.T.I. Describing the honored guest as "one of the real leaders in engineering education," Dr. Fox noted some of the improvements at Lowell Tech since Dr. Lydon became president in 1950.

Marshall C. Stone has been named president of Pacolet (S. C.) Mfg. Co., producer of sheetings, drills and twills. Stone steps up from the post of treasurer of the company. He succeeds Roger Milliken, who remains as vice-president. . . . Joseph J. Norton of Gaffney Mfg. Co. succeeds Stone as treasurer.

Robert D. Sloan has been named district manager of the Southern district sales office of the dyes and chemicals division of The Du Pont Co. The Southern district sales office, located in Charlotte, was formed by the consolidation of the Atlanta and Charlotte offices of the division. Sloan, who has been manager of the Charlotte district since 1946, will be assisted by W. Fred Crayton and Hyman H. Field as assistant managers of the Atlanta and Charlotte offices, respectively. . . . A. Bingham Owens, formerly manager of the Atlanta, Ga., district office of the dyes and chemicals division, has retired after 37 years service with the company. Owens has spent his entire career with the dyestuffs sales division, including ten years as export sales representative in the Orient. He joined Du Pont in 1921 as a laboratory assistant.

Ernest M. Boys, formerly vice-president of Green River Mills, Tuxedo, N. C., has joined a group of mills in Belmont, N. C., operated by Robert L. Stowe Jr. Boys will serve as general manager of the Chronicle Mill, National Yarn Mills, Stowe Spinning Co. and Imperial Yarn Mill.

L. Aubrey Goodson Jr., formerly assistant director of research for Dan River Mills, has been named the company's director of research to succeed Dr. Harley Y. Jennings, who is retiring effective April 1. Goodson's appointment was announced by W. J. Erwin, president, who added that it



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was expected that Goodson would be elected an officer of the corporation at the next meeting of the board of directors. Currently Goodson is a patent attorney with the firm of Fisher, Christen & Goodson in Washington, D. C. He has handled Dan River's patent work for many years, both during his earlier employment by the company and in his association with his present law firm. Goodson graduated from North Carolina State College with a degree in chemistry and received his law degree from Georgetown University. He was most recently employed by Dan River in 1953, when he held the position of assistant director of research. . . . Dr. Harley Y. Jennings, who is retiring, has had an outstanding 16-year career with Dan River Mills, the last ten years as head of the company's research division. During his tenure, special resin finishes were developed in Dan River's laboratories, first the trademarked "Wrinkl-Shed," and later the wash-and-wear finish, "Wrinkl-Shed with Dri-Don." Formerly a professor of chemistry at both Kansas City and Michigan universities, he was vice-president of Copeman Laboratories in Flint, Mich., when he resigned to join Dan River in 1943. He was appointed director of research here in 1949. Active in professional societies, Dr. Jennings is currently a member of the American Chemical Society, the American Association of Textile Chemists & Colorists, the American Association for Advancement of Science, the American Association of Textile Technologists and the English Textile Institute.

O. H. Hawkins, formerly with Superior Yarn Mills of Mount Holly, N. C., has been named superintendent of Park Yarn Mills, Kings Mountain, N. C., succeeding M. A. Enloe. G. S. York has been named to succeed Hawkins at Superior. He is being transferred from Superior's plant at Long Island, N. C.

Franklin M. Soling has joined the staff of the merchandising and product development department of American Viscose Corp., Philadelphia, Pa. In his new assignment, Soling will co-ordinate coverage of drapery and curtain markets. He has been associated with the market development division of Industrial Rayon Corp. for the last year. Prior to that he had served with American Viscose in its converting relations department, and with both Amerotron and Fame Fabrics Inc., in fabric styling and production. Soling is a textile engineering graduate of North Carolina State College. His headquarters will be in New York.

Davis E. Williams

Davis E. Williams Jr. has been named district manager of the Charlotte, N. C., office of the National Vulcanized Fibre Co., succeeding Roy G. Henderson, who has retired. Williams was previously associated for eight years with B. C. Plowden Co., Griffin, Ga., sales representative for National's lines of materials handling and textile equipment. Williams is a graduate of Georgia Institute of Technology with a B. S. degree in industrial management, and has three years of special training in textile engineering. He is an associate member of the Alabama Cotton Manufacturers Association.

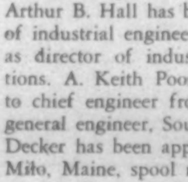
Edward A. Dalmas has been named assistant manager of the Southern sales territory of Becco Chemical Division, Food Machinery & Chemical Corp., Buffalo, N. Y. Dalmas, a graduate of North Carolina State College, joined Becco as a sales representative in 1956. Since that time he has served customers in the South, operating out of Valdese, N. C. He will continue his work in this area and now will also become assistant to D. Stewart Quern, Southern manager.

B. R. Black Jr. has been named general overseer of the weaving division of the Lockhart, S. C., plant of Monarch Mills. Black previously served as overseer of the Monarch No. 2 weaving plant in Union. He is a graduate of Clemson College with a degree in textile manufacturing. He has been connected with Monarch since 1951.

Election of new officers and advancement for other executives have been announced by The American Thread Co. following a February meeting of the board of directors. Harold E. Williams, controller, has also been elected secretary. Charles W. Anthes, formerly assistant controller, has been elected treasurer. Harry L. Crispen Jr. succeeds Anthes as assistant controller, and will continue as head of cost accounting. Lawrence L. Hofmann was named assistant secretary and will continue as assistant treasurer. These appointments came following the announced resignation of Abijah U. Fox, vice-president, secretary, treasurer and director. Fox resigned effective February 28 to become a general partner in the investment banking firm of Halden, Stone & Co. Arthur B. Hall has been appointed director of industrial engineering and will continue as director of industrial and public relations. A. Keith Pooser has been advanced to chief engineer from his former post of general engineer, Southern mills. Woodrow Decker has been appointed manager of the Milo, Maine, spool mill, effective February 16. Mr. Decker had been assistant manager at Milo since January 1, 1956.

Two new directors have been elected to the board of Saco-Lowell Shops, Boston, Mass. They are John E. Johnson, chairman of the board, Glascock Brothers Mfg. Co., Muncie, Ind., and Henry W. Harding, president, Laboratory for Electronics Inc., Boston.

Ralph J. Bachenheimer of Iselin-Jefferson Co. was re-elected chairman of the Textile Section of the New York Board of Trade at the annual meeting of the section at the National Republican Club recently. William H. Dribben, assistant vice-president of Cone Mills, was elected vice-chairman and John M. Bendheim, vice-president and director of M. Lowenstein & Sons, was elected treasurer.


Benjamin J. Zalkind

Benjamin J. Zalkind, well-known textile executive and engineer has joined Saco-Lowell Shops as consulting engineer in the product engineering department of the textile machinery division at Easley, S. C. Zalkind, who holds a bachelor of textile engineering degree from Lowell Technological Institute, was with Saco-Lowell for 18 years at its Biddeford, Me., research and development department until he left in 1948 to become president and general manager of the Normandie Mill, Nashua, N. H. Since that time, he has been active in textile circles and has been associated, among others, with Kanmak Mills, Manchester, N. H., and at National Worsted Mill, Jamestown, N. Y. He has written widely on textile processes and textile machinery, and is known for a number of textile machinery developments.

Luther W. Self has been named manager of market research and development for Stedman Mfg. Co. of Asheboro, N. C. Stedman manufactures a complete line of men's and boys' underwear and sportswear T-shirts. Self's headquarters will be in Asheboro. In this newly created position, he will direct all staff activities to relating research and development in the marketing division. Self received a B.S. Degree in textiles from North Carolina State College. After work in the textile industry, he received a Fulbright grant for one year of research study at Leeds University, Leeds,

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England. On his return from England, he was engaged in textile consulting work. Recently, he completed work and received a master of business administration degree from the University of North Carolina.

David W. Chappuis has been elected controller of Celanese Corp. of America. He succeeds James H. Black, who was recently elected president of Fiber Industries Inc., the company formed by Celanese and Imperial Chemical Industries Ltd. of Great Britain to produce Teron, a polyester fiber. Since February 1958, Chappuis had served as group controller of Daystrom Inc., Murray Hill, N. J. Past affiliations also include two years as vice-president and treasurer for TelAutograph Corp., Los Angeles; six years as controller of Marchant Calculators Inc., Oakland, Calif., and work in San Francisco as a certified public accountant.

William C. Somerville has been appointed general traffic manager of Celanese Corp. of America, effective April 1. He succeeds Edward F. Hanlon, who is retiring from the post which he has held since 1943. Hanlon will continue to serve the corporation as a consultant. Somerville has been assistant general traffic manager stationed in Charlotte, N. C., since 1953. His new post will be in the company's general headquarters at 180 Madison Avenue, New York, N. Y.

Art Seymour has been named Eastern regional manager for Wil-Mat Corp. of Charlotte, manufacturer of casters and wheels for industry. Seymour has had over 20 years experience in the sales and distribution of casters and wheels. His address will be P. O. Box 95, New Rochelle, N. Y.

Dan T. Henderson, public relations field representative for the American Cotton Manufacturers Institute in South Carolina, has resigned to accept a position with the Deering Milliken Research Corp. at Spartanburg, S. C. Henderson was press and research secretary for South Carolina Governor George Bell Timmerman Jr. before joining the A.C.M.I. staff. He also had been assistant city editor of the *Charleston News & Courier*.

T. H. Andrews has joined the staff of the merchandising and product development department of American Viscose Corp., Philadelphia, Pa. In the newly-created position, Andrews will co-ordinate coverage of the automotive market with respect to all fiber uses except tire cord, making his headquarters in New York City. Until recently, Andrews has been sales manager for Filatex elastic yarns. Production facilities for Filatex were recently sold by American Viscose in connection with the closing of the Roanoke, Va., plant.

Russell H. Pearson has been named assistant sales manager of Original Bradford Soap Works Inc., West Warwick, R. I. Pearson joined the company in 1955. He graduated from Colgate University.

Frank F. Myers has been named manager of the Charlotte office of Geigy Dyestuffs, division of Geigy Chemical Corp. Myers succeeds Howard M. Sprock, who has been with Geigy for 36 years and served as Charlotte branch manager since 1929. Sprock will go into partial retirement, representing the company in a number of accounts in the Charlotte area. A graduate of Georgia Tech, Myers joined Geigy as a salesman in its Chattanooga branch office in 1935, after six years as dyer for the Richmond Hosiery Mills in Rossville, Ga. Later he became manager of Geigy Dyestuffs Chicago office. He spent two years on special assignments in the main office in Ardsley, N.Y.

C. Russell Gill

C. Russell Gill of Atlanta, Ga., has been named sales consultant on textile chemical auxiliaries for sizing and finishing for Arnold, Hoffman & Co. Gill has wide experience in this field, having been employed by Holliston Mills of Tennessee and and Stein, Hall & Co., and for the past 20 years by Southern Sizing Co., where he served as president from 1946 until his recent resignation. He will operate from the Atlanta and Charlotte sales offices of the company. In addition to his capacity as sales consultant, Gill will assist in new product development in the above fields. He is active in several textile organizations, having been chairman and national councilor, Southeastern Section, A.A.T.C.C.; general chairman of the 1954 National Convention, A.A.T.C.C., in Atlanta; and an associate member of the Cotton Manufacturers Association of Georgia, the Alabama Textile Manufacturers Association and the Southern Textile Association.

James Barringer has been named a vice-president of Crompton & Knowles Co., textile machinery manufacturer. Barringer continues as treasurer and clerk of the organization.

John S. McMullan has been promoted to purchasing agent of Saco-Lowell gear and machine division at Sanford, N. C. He succeeds W. H. Kinard, who has retired. A graduate in electrical engineering from Purdue University, McMullan came to Saco-Lowell in 1954 from Cornell-Dubilier Electric Corp. At Saco-Lowell he worked through the inspection, production control and purchasing departments.

George W. Ray Jr., formerly superintendent of the synthetic carding, spinning and preparation of the fancy division of Woodside Mills, has accepted a position as general overseer of carding with the Osage Division of Reeves Bros. at Bessemer City, N. C.

R. Fred Long, for a number of years superintendent at Groves Thread Co., Gastonia, N. C., has joined the technical service department of Roberts Co., spinning machinery manufacturer of Sanford, N. C. In addition to being an experienced mill man, Long has specialized in textile machinery. He was for several years superintendent of the Tolar, Hart & Holt yarn mill at Fayetteville, N. C., and had previously been in yarn manufacturing supervisory work at Gastonia Combed Yarn Corp. and the former American Yarn & Processing Co. The newest member of the Roberts Co. technical staff will work out of company headquarters in Sanford under the direction of Ralph D. Padgett, vice-president technical service.

Milton K. Emerson, former vice-president and general manager of the Charleston (S. C.) Division of United Piece Dye Works, has joined the Hellwig Dyeing Corp., Philadelphia, Pa. Emerson will be manager of the fabric division, a new position. He joined United in 1934. In 1944 he succeeded C. Byron Lear as manager of the Lodi print works. He was named general manager of the company's Charleston plant in 1954, a post from which he resigned last November.

Frank C. Bennett has been elected president and treasurer of the Anniston (Ga.) Mfg. Co. He succeeds W. B. R. Pennington, who is retiring. Bennett, who has been secretary for the past four years, has been with the company since 1944. Pennington has been with the company for 35 years and has been president since 1949. He is a member of the American Cotton Manufacturers Institute and the Alabama Textile Manufacturers Association.

Elton D. Crenshaw has been named plant manager of Drayton Mills, Spartanburg, S. C. Crenshaw was formerly products manager at Drayton for many years and comes to the new post from Createx Corp. of Deering Milliken Research Corp.

William L. Lyall Jr. has resigned as director of marketing of the Fibers Division of American Cyanamid Co. Lyall joined the firm as a consultant in January of 1956 and in July of that year was made sales manager of the newly organized fibers division. In 1958 he was made a director. Before joining American Cyanamid, he was a director of Bates Fabrics Inc. He was associated with Bates for 27 years. Lyall has not announced his plans.

OBITUARIES

John W. Huff, 82, retired superintendent of Camperdown Mills, Greenville, S. C., died recently. Mr. Huff served as superintendent of the mill for 34 years. He was former member of the Greenville city council. Survivors include his widow, a daughter and five sons.

John C. Lyons, retired vice-president of the Orr-Lyon Mills of M. Lowenstein & Sons, died recently at his home in Anderson, S. C. He was the father of Joseph J. Lyons who was named president of M. Lowenstein recently. He had a record of 72 years of active service in the textile industry. He joined Orr Mills in 1899 and retired in 1956. Surviving are his widow, two daughters and three sons.

W. H. Miley Jr., 61, manager of the Erwin Mills plant in Erwin, S. C., died last month after a heart attack. Mr. Miley had been connected with the plant since 1929 and had been manager for the past five years. He was previously connected with the company's plant at Cooleemee, N. C. Surviving are two daughters.

Harvey W. Moore, 74, textile executive of Charlotte, died last month. Mr. Moore was president and treasurer of Brown Mfg. Co. and Roberta Mfg. Co., both of Concord, N. C., until 1956 when he sold his interest. At the time of his death he was an officer of Highland Park Mfg. Co., Charlotte, Park Yarn Mills, Kings Mountain, N. C., and Eastern Mfg. Co., Selma, N. C. He was also a director of Cannon Mills, Kannapolis, N. C. Survivors include his widow and a daughter.

Ben R. Rudisill, 42, president and treasurer of Carlton Yarn Mills, Cherryville, N. C., was killed Macrh 3 when a private plane he was flying in crashed. Also killed in the crash were his wife, Jack Hillman Scott, Mr. Rudisill's administrative assistant, and Mrs. F. D. Quinn Jr., wife of the superintendent of Dora Mills. Mr. Rudisill was also a director of the American Cotton Manufacturers Institute and a former president of the Combed Yarn Spinners Association.

Jack Hillman Scott, 35, assistant to the president of Carlton Yarn Mills, Cherryville, N. C., was killed in a plane crash March 3. Mr. Scott joined Carlton in 1955. Prior to that he was connected with Durham Spinning Mills of Durham, N. C. He is survived by his widow, two sons, a daughter and his parents.

MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

NEW YORK, N. Y.—For the three months ended January 31, 1959 consolidated net sales of J. P. Stevens & Co. totalled $95,212,735 compared with $84,876,341 for the corresponding three months last year. Consolidated net earnings for the 1959 period after provision of $140,000 for state income taxes are estimated at $2,760,835, equivalent to 66 cents per share. No provision for Federal income taxes was required for this period because of the availability of loss carry-overs and other tax deductions. During the first three quarters of the company's 1958 fiscal year provision was made for Federal income taxes. As stated in the annual report, the company subsequently decided to file a consolidated Federal income tax return for 1958 which made such tax provision unnecessary. Since net income for the first quarter of the 1958 fiscal year, as reported, reflected such provision for Federal income taxes it is not comparable with income of the current period and is not shown.

ROCKINGHAM, N. C.—Residents of the Safie mill village of the now defunct Safie Mfg. Co. were notified recently that the company-owned houses were for sale to their occupants.

OPP, ALA. — Opp Cotton Mills, and Micolas Cotton Mills, will shortly begin production of a new group of Bondyne cotton and Dynel blend apparel fabrics. Developed by Opp and Micolas under special licensing arrangement with the Bondyne fabrics division of Greenwood Mills, the line will include popular priced staple and specialty sportswear fabrics. These will be distributed in the greige to converters for the Spring 1960 market by Opp-Kory Textiles Inc., selling agency for both mills. Offered in widths up to 50", the new single shuttle fabrics will be of carded cotton construction incorporating Dynel, textile fiber of Union Carbide Corp. Significant advantages of the new construction, according to Opp and Micolas officials, is the high degree of desirable press retention and wrinkle resistance imparted to fabrics.

ALBEMARLE, N. C. — American & Efird Mills is constructing an addition of 5,750 square feet to its facility here. The addition will house new machinery.

NEWTON, N. C.—Through an exchange of stock, Glenn Mills of Lincolnton, N. C., will become a subsidiary of Carolina Mills here. Julius Abernathy of Newton, president of Carolina Mills and Dan M. Boyd, president of Glenn Mills, said that a plan had been worked out under which the stockholders of Glenn Mills will exchange their stock in that company for stock in Carolina. After the exchange, Glenn Mills will be operated as a subsidiary of Carolina. The present management will continue and no changes in operating policy are contemplated. Glenn Mills produces fine yarns, Carolina produces carded yarns. Acquisition of the Lincolnton mill will bring the number of spindles operated by Carolina to 41,660 since 15,808 will be acquired from Glenn.

DANVILLE, VA. — Grading operations preparatory to construction of Dan River Mills' new research and chemical manufacturing building have begun and the laying of foundations is expected about the first of April. The building will include two floors and a mezzanine, and will provide approximately 52,000 square feet of floor space. It will be of steel frame construction with concrete floors. One portion of the building will have cement masonry unit walls with brick facing, and a second portion will have prefabricated aluminum side walls. Construction of the building, including grading, electrical work, plumbing, heating and ventilation, installation of a sprinkler system and elevator facilities will represent an investment of about $450,000.

EASLEY, S. C. — The Easley plant of Woodside Mills reached the safety mark of two million man-hours without a lost-time accident early this month. This is the first time the plant has reached the two million mark.

CHARLOTTE, N. C.—The Amerotron Co., a division of Textron Inc., has reported sales of $61,600,000 for 1958. Earnings of $2,600,000 were reported for the year. Included in this is a profit at the company's new Barnwell, S. C., woolen mill. A net worth of $29,300,000 was reported for the division.

BOSTON, MASS.—The Kendall Co. here set a new sales record in the second half of 1958, although total sales for the year were off 3% and earnings down 5% from 1957. In the annual report issued recently, president Richard R. Higgins reported 1958 Kendall sales of $103,382,000 and net earnings of $3,805,000, or $3.60 per common share, from the manufacture of surgical dressings, textile specialties, polyethylene tapes and other Kendall products. Higgins said that 1958 had been particularly difficult due to the loss and replacement of certain types of business, depressed conditions in textiles and the national recession. He pointed out, however, that the fluctuation of Kendall's earnings had been slight. The company, with 16 domestic and three foreign plants, moved last year toward consolidation of a three-plant elastic goods operation at a new plant in Seneca, S. C. Also, the report announced the formation of the Kendall Co. international division and described a new Kendall textile sales organization. It is expected that the results of these moves will be apparent by the middle of the year.

SAXONVILLE, MASS.—The Roxbury Carpet Co. is currently celebrating its 100th birthday. The story of Michael Simpson, founder, and of Roxbury's 100 years is told in an illustrated historical booket mailed recently to the company's stockholders together with the company's 1958 annual report. The booklet traces the company's steady growth in carpet making to reach its present status as a fully-rounded supplier of floor coverings with 44 different grades, with three highly modern mills and with its stock listed on the American Stock Exchange.

ALBEMARLE, N. C.—Wiscassett Mills Co. is adding about 1,500 square feet to its main office here.

WEST POINT, GA.—West Point Mfg. Co. reports sales of $70,154,000 for the six months ended February 28. This is an increase of 19% over sales of $58,866,000 for the like period last year. Net income after taxes for the period amounted to $2,999,000 as compared with $1,714,000 last year, an increase of 75%. Earnings per share were 99 cents as compared with 56 cents a year ago. In releasing the figures to stockholders, J. L. Lanier, West Point president, said, "Normally about 60% of our annual earnings are in the first half of each fiscal year. It is too early to predict what our profits for the year will be, but as of now the future looks better than it has for some time."

BRIDGEPORT, PA. — High fourth quarter sales of $21,017,725 brought total sales for Lees carpets during 1958 to $68,120,352, stockholders of James Lees & Sons Co.

were informed in the annual report released recently. This was a decline of 7% from the $73,243,299 recorded in 1957. Fourth quarter sales also produced the largest last quarter net profit in the company's history to provide net earnings for 1958 of $3,804,682, equivalent to $4.55 per share of common stock outstanding. This represents an increase of 6% over the $4.30 per share earned in 1957. The Lees earnings were recorded after non-recurring costs of approximately $900,000 during the year caused by the closing of Northern operations and the starting-up of Southern mills. The completion of new Southern mills accounted for most of the capital expenditures which amounted to $2,812,000 during 1958. Dividends of $2 per common share were paid for the 12th consecutive year and the book value at year-end reached $46.82 per share. Working capital increased during the year by approximately $800,000.

LUMBERTON, N. C.—Calvine Mills Inc., has signed a $250,000 contract with the Roberts Co., Sanford, N. C., for the modernization of its Lumberton River Mills division here. The purchase consists of 44 Roberts modernized cotton system spinning frames. Delivery will be under Roberts turnkey erection program, whereby the manufacturer assumes complete responsibility for installation and ships the equipment 75% erect in its own trailer vans. Warp spinning frames of 3¼" gauge, the Roberts modernized machines ordered by Calvine are equipped with Roberts double apron high draft system with no-oil cap bars and saddles, UnitVac suction cleaning, AeroCreel with Roberts bobbin holders, etc. They are complete with motors. Included in the Roberts contract is American Mono-Rail cuff-type overhead cleaning. Leon Salkind, president of Calvine Mills, stated that the Lumberton program represents part of a multi-million dollar plant modernization and expansion of its facilities.

NEW BEDFORD, MASS. — M. Lowenstein & Sons, manufacturer of cotton goods, has appointed Frank G. Binswanger Inc. industrial realtors of Philadelphia, Pa., as exclusive real estate agent for the sale or lease of the 832,000-square-foot former Wamsutta Mills property here. The property includes a multi-storied main plant, separate office building and a small warehouse, located on an approximately 20-acre tract. The Wamsutta buildings will be offered for sale or lease individually or collectively as buildings or in full floor units. The main plant has been divided into six sections for leasing or sale. Binswanger has offices in New York, N. Y., Charlotte, N. C., and Yemassee, S. C.

NEUSE, N. C.—Erwin Mills Mill No. 7 here is being closed because the operation is too small to be profitable, the company reports. The plant makes pillow case sheeting and employs 118 workers. William H. Ruffin, president of Erwin, said that the operation had been unprofitable since 1948. He expressed the hope that the plant can be sold to someone who would start a new industry.

GREENVILLE, S. C. — Abney Mills here has announced the dates on which it plans to offer 2,000 textile community houses for sale. The first group of houses, those at Renfrew Bleachery near Travelers Rest and Poinset Mill, Greenville, went on sale March 15. The rest of the sale schedule is: Anderson Mill, April 1; Woodruff Mill, April 15; Brandon Mill, Greenville, May 1; Belton Mill, June 1; Panola Mill at Greenwood, July 15; and Courtney Mill at Newberry, August 1.

BESSEMER CITY, N. C.—Gambrill & Melville Mills Co. here has announced the granting of a five-cents-an-hour across-the-board increase for its workers. This is the second increase granted by the company in three months.

ERWIN, N. C.—The negotiating committee for Local 250 of the Textile Workers Union of America has announced that it has accepted a 7½-cent per hour wage increase from Erwin Mills. The increase raises the plant minimum to $1.25 per hour. The union described the agreement as a reasonable compromise by both sides.

DANVILLE, VA.—Consolidated net sales for Dan River Mills, for the year ended January 3, 1959, totalled $161,318,936, a decline of less than 2% from the record high volume of $164,398,556 in the prior year, W. J. Erwin, president, announced in a preliminary report on the corporation's 1958 operations. Net earnings amounted to $5,777,553, compared with the $5,681,766 earned in 1957. On a per share basis, after providing for preferred dividends, net earnings for the year just ended were equal to $1.24, compared with $1.22 a year ago. Earnings figures for 1958 include non-recurring income of $754,791, which is equal to 16 cents per share. Erwin also announced that the board of directors had declared a quarterly dividend of 20 cents per share on the common stock and 25 cents per share on the preferred stock. Both dividends are payable April 1, 1959, to holders of record on March 13, 1959.

BALTIMORE, MD. — Mt. Vernon Mills here has reported earnings of $414,296 or 53 cents a common share on sales of $38,940,189 for 1958 as compared with earnings of $771,628 or $1.01 a share on sales of $45,632,106 in 1957. The firm's annual report listed current assets at $15,005,453 with liabilities listed at $1,757,397. Thomas M. Bancroft, president and treasurer, reported that the improvement in the textile industry is continuing and that the company's unfilled order position is substantially higher than last year at this time. He said that a more extended forecast was hampered by the uncertainty surrounding the future cost of cotton and the threat of increased imports from low-wage countries.

HENDERSON, N. C. — Operations have continued at the South Henderson plant of Harriet-Henderson Cotton Mills despite the blowing up of a boiler, oil heating system and the throwing of acid on 47 carding machines. A small auxiliary boiler is being used until the large boiler can be restored. Police estimated damage in the blast at $25,000. The strike at the plant continues with no agreement between management and union officials appearing in sight. The company wishes to eliminate the mandatory arbitration clause from the contract and the union officials refuse to sign on that basis.

SENECA, S. C.—Plans for the third expansion of the Kendall Co.'s plant near here have been announced. The new expansion will include additional office space and plant and products development section. The Kendall Co. purchased the Abbot Worsted plant here last Summer and added 10,000 square feet. Later some 39,000 square feet was added for warehouse area, machine shop, locker rooms and a loading dock. Full employment of 400 is expected to be reached this year, the company reported.

ITASCA, TEX.—Reeves Bros. Inc. is running out orders at Itasca Cotton Mills here and is terminating its lease on the plant. The mill is being turned back to its owners. Itasca has been producing osnaburgs, ducks and wide sheeting on 222 looms and 10,048 spindles.

NEW YORK, N. Y.—Indian Head Mills with headquarters here has announced that it will discontinue the operations of two plants of the Linen Thread Co. in New Jersey and concentrate the operations of the latter in Blue Mountain, Ala. The Linen Thread Co., American affiliate of the British organization of the same name, was acquired recently by Indian Head. The plants to be discontinued are the Barbour Mill in Patterson and the Marshall Mill in Kearney, N. J. Both plants will be offered for sale.

PAGELAND, S. C.—A new South Carolina corporation called Chesterfield Yarn Mills is purchasing Palmetto Yarn Mills here. Major stockholders in the new corporation are Joe Neisler and members of his family. Neisler was one of the owners of Neisler Mills which sold its holdings to Massachusetts Mohair in 1955. No management changes are contemplated.

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textile bulletin

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Associate Editor . . . . GUS GUGGENHEIM
Associate Editor . . . . DEMONT ROSEMAN JR.
Assistant Editor . . . . JOHN V. LAWING
Consulting Editor . . . . WILLIAM C. DODSON
Inquiry & Reader Service . . . . ANNE ABERNATHY

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TEXTILE BULLETIN is devoted to the dissemination of information and the exchange of opinion relative to the spinning and weaving phases of the textile industry, as well as the dyeing and finishing of yarns and woven fabrics. Appropriate material, technical and otherwise, is solicited and paid for at regular rates. Opinions expressed by contributors are theirs and not necessarily those of the editors and publishers. ¶ Circulation rates are: one year payable in advance, $1.50; two years payable in advance, $2.00; one year, Canada, $3.00; one year, other countries in Postal Union, $5.00; single copies, 25 cents. ¶ A companion monthly journal, THE KNITTER, is published by Clark Publishing Co. and devoted to the interests of the knitgoods manufacturing industry.

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Living In Airplanes

Thomas J. Ault

A whirlwind of a man named Thomas Ault gave members of the Greater Charlotte Textile Club their first glimpse of the new president of Saco-Lowell Shops March 9. As the featured speaker for the club's March meeting, Mr. Ault proudly proclaimed Saco-Lowell's move to the South as the birth of a new child of the South, a textile machinery industry. And he reported that other machinery builders now in New England are keeping a close eye on the outcome of Saco-Lowell's move as a tip-off on how they themselves might fare in a Southern clime.

Saco-Lowell's decision to pull up stakes and become the first full-line yarn manufacturing machinery company completely made in the South was, of course, given wide publicity when the announcement was made. But to really get a grasp on what a far-reaching decision this was, you need to hear the story first-hand from Mr. Ault himself. You need to be reminded that Saco-Lowell has been a New England institution *since 1813*. You have to remember that, like the Chesterfield slogan points out, "They said it couldn't be done." And you have to take into consideration that the man who did it wasn't even in the textile industry a year ago!

When Mr. Ault joined Saco-Lowell last July, the company wasn't in the best of shape. As a matter of fact, it was losing money at a rate that would total $2.5 million by year's end. How wise would it be to sink another few million? What was *the* thing to do? Mr. Ault's answer? Chunk the long-range plans for a move to the South. Move now. Get set for bigger and better years ahead in the textile industry, and make a move toward diversification. That was the plan, and Saco-Lowell plunged into it at a cost of $5.5 million. And already Ault and associates are expecting to be operating in the black by late this year.

What's it like to join a company in July and send it South by Winter? How do you so quickly pull out of an area you've operated in 145 years? What do you tell the union bosses? How do you keep your customers happy?

To begin with, you have to have confidence in your plan. And in yourself.

And you have to be content for a while to live in airplanes.

For The Moment Anyway

Halbert M. Jones

BACK in 1948 when Harry S. Truman unexpectedly slammed the White House door in Thomas E. Dewey's face, Bob Hope is reputed to have sent the re-elected warrior a one-word congratulatory message, "Unpack!" That same well wish could now be extended most appropriately to Halbert M. Jones as he steps down from the presidency of the American Cotton Manufacturers Institute. After 12 months of quarterbacking the A.C.M.I. team, hopping from one point to another with such speed that he sometimes undoubtedly just barely missed seeing himself off in one direction while he waited to leave in another, it will be a relief for him to pull out of competition with the Vanguards, the Explorers and the Sputniks. To unpack. And to get back to his own business interests.

This year's annual meeting served as the tenth anniversary for the A.C.M.I., and Halbert M. Jones goes into the record as the institute's tenth president. But that isn't all the record will show, not by a long shot. It will show him as one of the industry's most distinguished spokesmen; a genuine and sincere leader in the institute's effort to pull the industry off the political trapdoor. By all standards he has earned for himself a lasting place in the textile sun. Make no mistake, now. We're not seeing an old horse off to pasture. Not by any means. We just want to share with him the pleasure of unpacking, of tearing up his airline credit card, and getting back home for a bit. He knows, as you know and we know, that his judgment will long be sought after when projects need pushing and problems need solving.

For the moment though, Mr. Jones, . . . unpack!

A Tough Job For Any Committee

IN the midst of rock throwings, car tippings, dynamitings, shootings, near riotings, and other various disorders, reports of wire services have stated that a committee of Henderson, N. C., businessmen are seeking new industry for their town. The Harriet-Henderson Cotton Mills, the town's biggest employer, has been struck since last November 17 by the Textile Workers Union of America. The mill has been operating since the middle of last month on a curtailed basis using non-striking workers.

Selling the town of Henderson to a new manufacturing company as a site for plant construction is really going to be a tough job. The violent nature and bitterness of the strike has placed a big obstacle in the committee's path. We really feel for them.

Most recent outbursts occurred on March 16 when a near riot resulted in the arrest of 26 persons. State Highway Patrol reinforcements were sent to the scene after the incident. On March 18 a man was arrested for throwing a rock at a free-lance photographer. A police car was hit with a rock or bottle in the strike area and the windshield of a highway patrol car was broken by a rock, the same day.

Each new incident makes the job of the business seeking committee tougher. What attributes can the town have that overshadow the existing violence-prone conditions?

As we go to press another management-union negotiation session is soon to be held. It is hoped that a settlement can be reached and the mill, the workers, and the town's new industry seekers can get on with their business.

Good News From West Point

POSITIVE proof of the upturn in textiles was the Saint Patrick's Day announcement by West Point Mfg. Co. that its sales and profits for the first six months of the current fiscal year show a healthy hike over figures for the same period a year ago. Sales jumped 19%, from $58.8 million to $70 million. Net income after taxes rose from $1.7 million to almost $3 million. Earnings per share jumped from 56 to 99 cents. In a letter to stockholders, J. L. Lanier, West Point president, pointed out that although it's still too early to predict how good a year '59 will be, the future looks better than it has for some time.

'Swonderful.

TEXTILE INDUSTRY SCHEDULE

— 1959 —

Mar. 26-27 (Th-F)—Spring meeting, **TEXTILE QUALITY CONTROL ASSN.**, North Carolina State College, Raleigh, N. C.

Apr. 2-3 (Th-F)—Annual conference on Electrical Applications in the Textile Industry, Textile Industry Subcommittee, **AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS**, Heart of Atlanta Motel, Atlanta.

Apr. 3 (F)—Spring meeting, **SOUTH CAROLINA DIVISION, SOUTHERN TEXTILE ASSOCIATION**, Fairforest High School, Spartanburg, S. C. (Supper served at 6:30 p. m.; meeting begins 7:30 p. m.)

Apr. 9-10 (Th-F)—Annual meeting, **ALABAMA TEXTILE MANUFACTURERS ASSOCIATION**, Buena Vista Hotel, Biloxi, Miss.

Apr. 10-11 (F-Sa)—Spring meeting, **PIEDMONT SECTION, A.A.T.C.C.**, Hotel Robert E. Lee, Winston-Salem, N. C.

Apr. 11 (Sa)—Spring meeting, **NORTHERN NORTH CAROLINA-VIRGINIA DIVISION, SOUTHERN TEXTILE ASSOCIATION**, Lexington Senior High School, Lexington, N. C. (10 a. m.)

Apr. 15-16 (W-Th)—Open House, **A.C.M.I. COTTON FIBER TESTING LABORATORY**, The Clemson House, Clemson, S. C.

Apr. 22-25 (W-Sa)—Annual convention, **COTTON MANUFACTURERS ASSOCIATION OF GEORGIA**, Diplomat Hotel and Country Club, Hollywood Beach, Fla.

Apr. 25 (Sa)—Spring meeting, **TEXTILE OPERATING EXECUTIVES OF GEORGIA** (Opening, Picking, Carding & Spinning), Hightower Textile Building, Georgia Tech, Atlanta.

Apr. 25 (Sa)—Spring meeting, **EASTERN CAROLINA DIVISION, SOUTHERN TEXTILE ASSOCIATION**, North Carolina State College School of Textiles, Raleigh, N. C. (10 a. m.)

Apr. 28-29 (Tu-W)—Technical Advisory Committee meeting and Board of Trustee Meeting, **INSTITUTE OF TEXTILE TECHNOLOGY**, Charlottesville, Va.

Apr. 29-30 (W-Th)—Spring meeting, **THE FIBER SOCIETY**, Fontana Village, N. C.

May 2 (Sa)—Spring general meeting, **ALABAMA TEXTILE OPERATING EXECUTIVES** (Slashing and Weaving), Thach Auditorium, Alabama Polytechnic Institute, Auburn, Ala.

May 12-14 (Tu-Th)—**COTTON RESEARCH CLINIC** (sponsored by the National Cotton Council), The Grove Park Inn, Asheville, N. C.

May 14-16 (Th-Sa)—Annual outing, **CAROLINA YARN ASSOCIATION**, Pinehurst, N. C.

May 18-23 (M-Sa)—**NATIONAL COTTON WEEK**, sponsored by the National Cotton Council of America.

May 28-30 (Th-Sa)—Annual meeting, **SOUTH CAROLINA TEXTILE MANUFACTURERS ASSOCIATION**, Sea Island, Ga.

June 18-20 (Th-Sa)—51st Annual Convention, **SOUTHERN TEXTILE ASSOCIATION**, The Ocean Forest Hotel, Myrtle Beach, S.C.

Sept. 10-11 (Th-F)—Fall meeting, **THE FIBER SOCIETY**, Textile Research Institute, Princeton, N. J.

Sept. 17-18 (F-Sa)—Annual outing, **CHATTANOOGA YARN ASSOCIATION**, The Read House, Chattanooga, Tenn.

Oct. 1-2 (Th-F)—Fall meeting, **TEXTILE QUALITY CONTROL ASSOCIATION**, The Grove Park Inn, Asheville, N. C.

Oct. 3 (Sa)—Fall meeting, **TEXTILE OPERATING EXECUTIVES OF GEORGIA** (Slashing & Weaving), Hightower Textile Building, Georgia Tech, Atlanta.

Oct. 7 (W)—**CHEMICAL FINISHING CONFERENCE**, sponsored by the National Cotton Council, Mayflower Hotel, Washington, D. C.

Oct. 8-10 (Th-Sa)—Annual national convention, **A.A.T.C.C.**, Sheraton Park and Shoreham Hotels, Washington, D. C.

Oct. 10 (Sa)—Fall general meeting, **ALABAMA TEXTILE OPERATING EXECUTIVES** (Carding and Spinning), Langdon Hall, Alabama Polytechnic Institute, Auburn, Ala.

Oct. 17 (Sa)—Annual meeting, **(GEORGIA) TEXTILE EDUCATION FOUNDATION**, A. French Textile School, Georgia Tech, Atlanta.

— 1960 —

Apr. 7-9 (Th-Sa)—Annual meeting, **AMERICAN COTTON MANUFACTURERS INSTITUTE**, Americana Hotel, Bar Harbor, Fla.

June 23-25 (Th-Sa)—52nd annual convention, **SOUTHERN TEXTILE ASSOCIATION**, The Grove Park Inn, Asheville, N. C.

Oct. 3-7 (M-F)—The 21st **SOUTHERN TEXTILE EXPOSITION**, Textile Hall, Greenville, S. C.

(M) Monday; (Tu) Tuesday; (W) Wednesday; (Th) Thursday; (F) Friday; (Sa) Saturday

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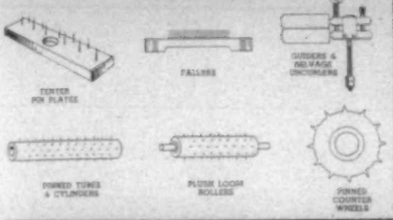

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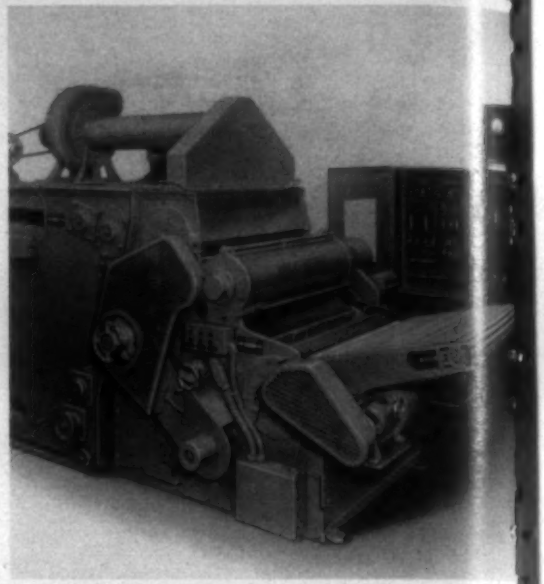

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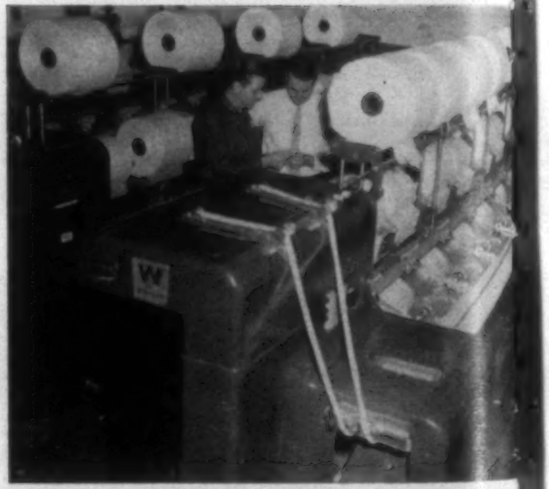

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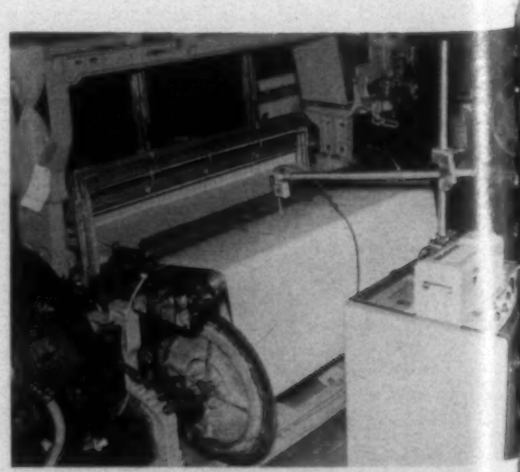

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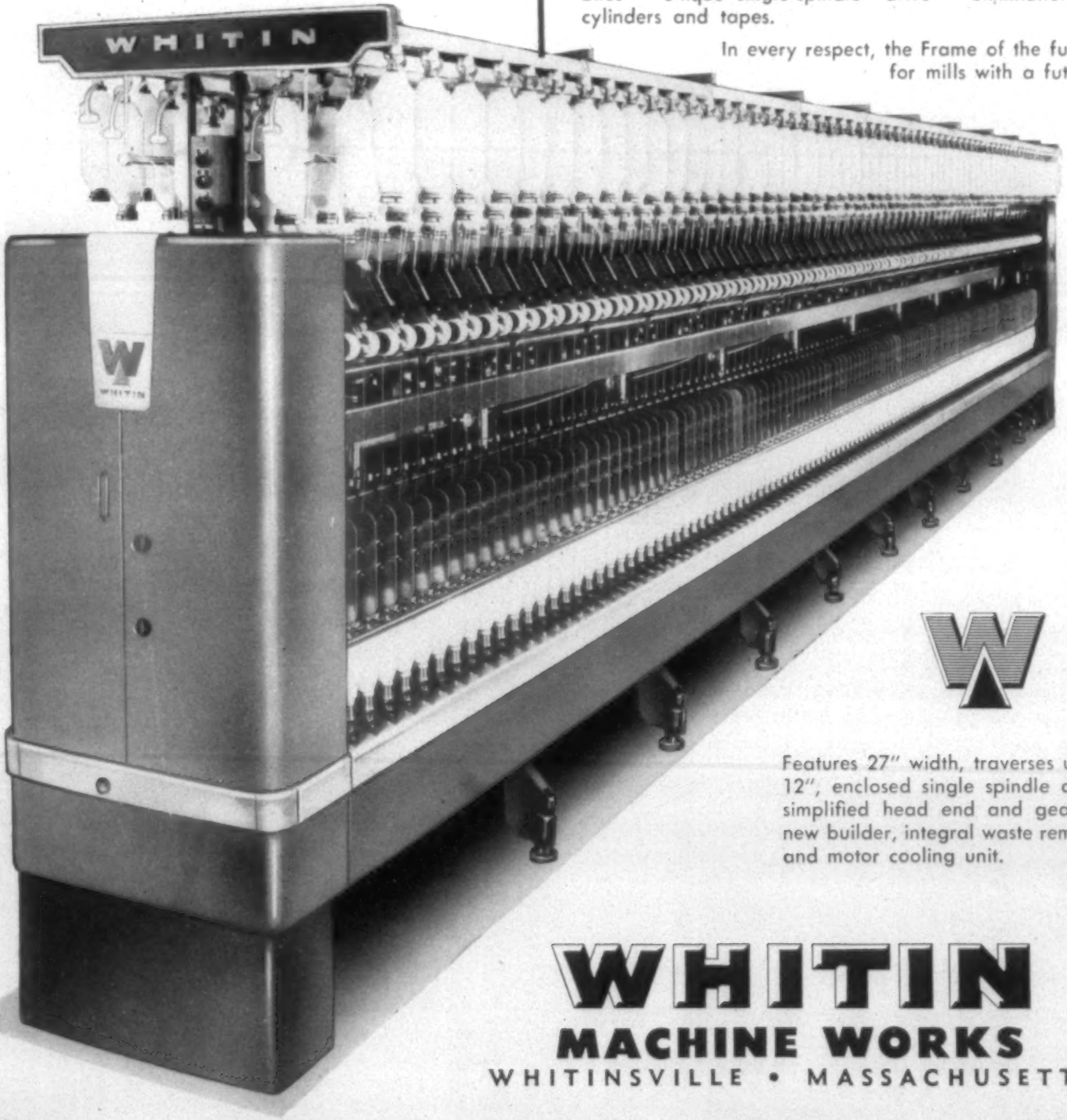

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